



LUMBERJACKS
AND
RIVERMEN
IN THE
CENTRAL ADIRONDACKS

1850 - 1950

BY
HAROLD K. HOCHSCHILD



ADIRONDACK MUSEUM
BLUE MOUNTAIN LAKE, N. Y.




TOWNSHIP 34 AND NEIGHBORHOOD

United States Geological Survey, *Topographic maps*, parts of adjoining sheets: Blue Mountain Lake, 1900; Raquette Lake, 1899; West Canada Lakes, 1897; and Indian Lake, 1897; with the addition of certain names and roads.

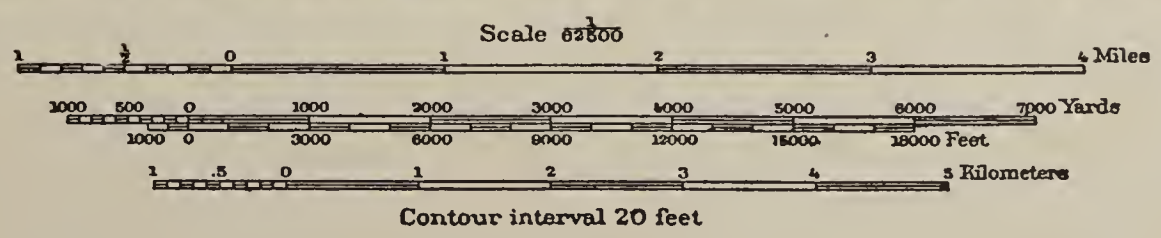


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BY
HAROLD K. HOCHSCHILD



ADIRONDACK MUSEUM
BLUE MOUNTAIN LAKE, N. Y.
1962

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To
Linda H. Morley

Lumberjacks and Rivermen in the Central Adirondacks 1850-1950 is a selection from the author's *Township 34*, privately printed in 1952. The author makes grateful acknowledgment of the help of two Adirondack old-timers, the late Allie Roblee and the late George L. Persons, whose reminiscences were invaluable sources; of the stimulating suggestions of Dr. John C. A. Gerster; of the cooperation of all those mentioned in the text; and of the information given and photographs lent by many others.

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Glens Falls Invades Township 34

*I*n the middle of the eighteenth century the lumbermen of New York, who had been moving gradually up the colony's rivers and streams in their search for easily accessible timber, arrived at the fringes of the Adirondack Mountains in northern New York. By 1849 they had reached the heart of the wilderness and begun cutting trees in Township 34, which, geographically speaking, lies in the vicinity of that organ. Township 34 (see the map on the front end pages) had been part of the great Totten and Crossfield land purchase of 1772. The numbered townships into which this purchase had been divided were no longer of administrative significance, but the designations were still in popular use; even today recordings of land transfers make reference to them. Township 34, which comprised about 25,000 acres, included the Eckford lakes — Blue Mountain, Eagle and Utowana.

For the next fifteen years, operations were on a small scale compared with their later volume. During that first period various tracts in the township changed hands many times among individuals and partnerships, all with headquarters at Glens Falls. The buyers and sellers between 1849 and 1864 included George Sanford, Cyrus Burnham, Simon Stevens, Byron Rice, Julius H. Rice, James V. Schenck, Walter Phelps, Jr., Benjamin C. Butler and Jones Ordway. The last named traded at first as an individual. About 1863 he joined James Morgan and William McEchron in the group which gradually acquired the whole township and eventually formed the Morgan Lumber Company.

The lumber industry had taken root in Glens Falls with the building of the first sawmill around the time of the colonizing of the place in 1763 by Abraham Wing (1721-1795), at the head of a number of members of the Society of Friends who took up land grants in the neighborhood. The settlement was first called Wing's Falls. The circumstances of the change of name to that of Colonel Johannes Glen (1735-1828) of Schenectady are thus related in the Gresham Publishing Company's *History and Biography of Washington County and of the Town of Queensbury*:

In 1788, Abraham Wing had a store and inn on the corner of Ridge and Warren Streets. At this inn, the choicest liquors from Albany, Montreal and Nova Scotia were furnished, and the wealthier residents and prominent men of that day often held high revel there. At one of these convivial entertainments in 1788 Colonel John Glen proposed to pay all the expenses of a wine supper if Abraham Wing would transfer to

him all claim and title to the name of the Falls. For some reason unknown, Wing assented, the supper was held, and while the landlord gathered in quite a little sum of money on the entertainment, Glen acted with rapidity on the proposed change of name of the place. He had bills printed, announcing the change of name from Wing's Falls to Glen's Falls, and posted on every road and bridle path between Albany and Queensbury.

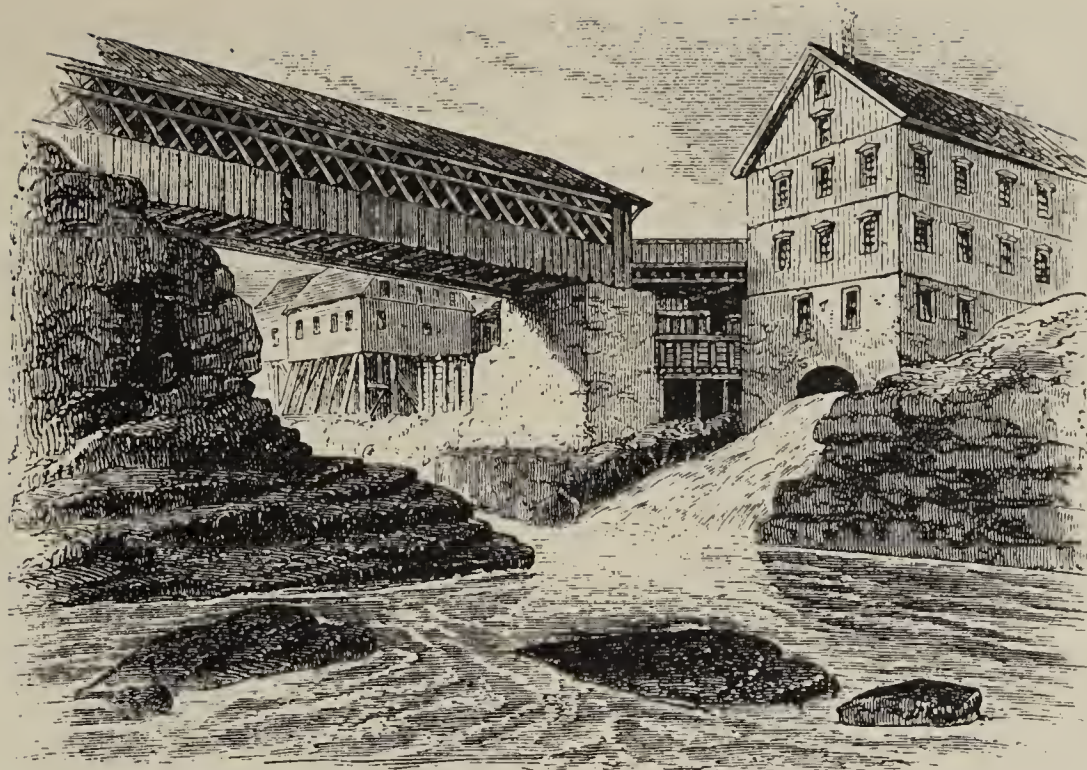
If on that fateful evening the principals were still sober when Colonel Glen made his offer, it is likely that the consideration for the change of name involved more than his footing the bill for the impromptu banquet, for in 1788 Abraham Wing was in financial difficulties. Ironically Colonel Glen, too, became impoverished in his last years and had to be supported by his friends, but by that time usage had irrevocably stamped the town with his name.

When the stands of large trees near Glens Falls became exhausted early in the nineteenth century, it looked for a time as if the sawmills and the town itself would be abandoned. They were saved by a revolutionary development in logging. In 1813 the Fox brothers — Alanson and Norman — began driving single logs down the Schroon River and the Hudson to Glens Falls. When they and their partner, Abraham Wing III of Glens Falls, had proved this practice profitable, it became general. Tapping the Adirondacks as a great new source of supply, the Glens Falls lumber industry underwent a lusty revival.

The Lumbermen at the Eckford Lakes

The Civil War spurred the growth of industry in the northern states. The impetus to lumbering penetrated the wilderness. It sped Jones Ordway and his associates on the road to prosperity. By the middle 1860's they had acquired the whole of Township 34 and were cutting trees on a large scale in the woods around the Eckford lakes—Blue Mountain, Eagle, and Utowana—and feeding a considerable number of lumberjacks. At Eagle Nest, the clearing on the north side of Eagle Lake — which for some years before their purchase had been occupied by Ned Buntline, famous writer of adventure fiction and the discoverer of Buffalo Bill — the Ordway group in 1863 installed one Henry Austin as farmer.

Austin's early occupancy was marked by a war-time episode. The federal government was then employing agents to round up conscripts for the Union armies. The agents, known as bounty brokers, were given military aid in searching for prospects and received a fee for each man produced. They became notorious for robbing the conscripts of their bonuses and for defrauding the government by including physical derelicts in their roundups. Even the inner recesses of Hamilton County were scoured for recruits. One Nate Bennett, a resident of the county in flight from the draft, took refuge with Austin at Eagle Nest. When a searching detail of soldiers appeared unexpectedly one night at his farmhouse, Austin managed to let Bennett escape through a back window. The fugitive gained the concealment of the woods and eventually found safety in Canada. This, at any rate, was the tale told to the late Allie



BELOW THE BRIDGE AT GLENS FALLS

Sketched in 1859 by Benson J. Lossing for his *The Hudson, from the Wilderness to the Sea*.

Roblee by Austin and also by Bennett, who later returned to this neighborhood, where he was not highly regarded either before or after his flight.

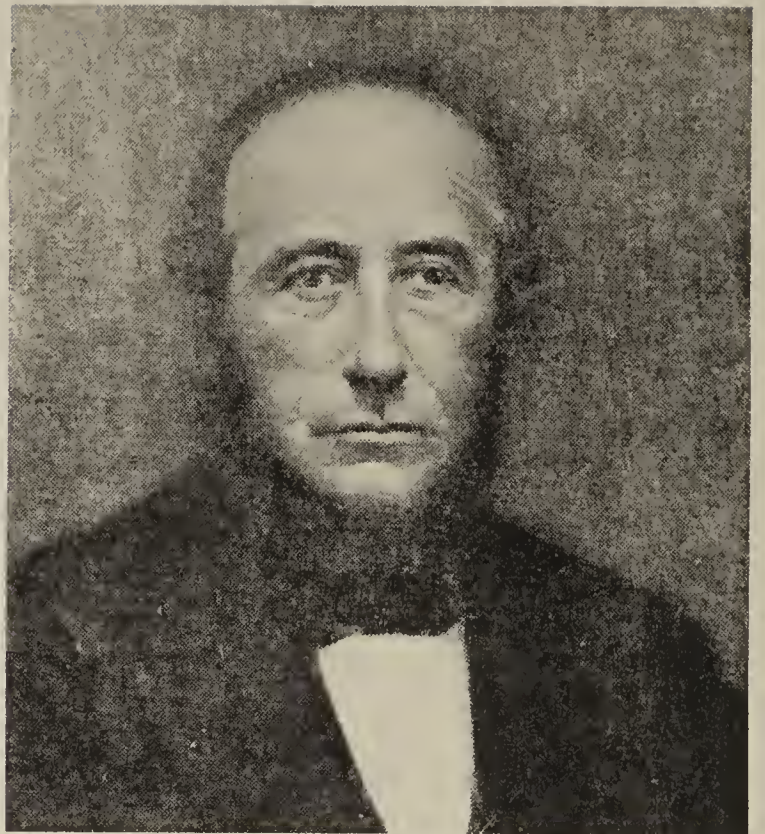
During Austin's time at Eagle Nest, wolves and panthers prowled the nearby woods. There was a bounty on each of \$5. In 1870 the Hamilton County board of supervisors raised the panther rate to \$15, and in that year four men qualified for the bounty, including the well-known Indian guide Mitchell Sabattis. There was another, even more profitable quarry — the black bear. The latter preyed on sheep that grazed in Adirondack clearings; and New York State, Hamilton County and Indian Lake Township each paid a bounty of \$10 for every bear killed. This combined prize of \$30 was not the bear hunter's only incentive. Bear meat was considered a delicacy and the skins were in demand for carriage and sleigh robes.

In a corner of the Eagle Nest clearing Austin planted an apple orchard. The rest of the clearing he used to pasture his flock of sheep and to raise potatoes for the lumberjacks and oats and hay for the many horses used by his employers. According to the 1875 edition of E. R. Wallace's *Descriptive Guide to the Adirondacks* Austin also furnished sportsmen "with entertainment and supplies."

The rival guidebook writer, S. R. Stoddard, in the 1874 edition of his *The Adirondacks*, after recording his arrival at Eagle Nest and referring to Ned Buntline's former occupancy, wrote: "But the old Eagle has flown, other birds of prey occupy the nest, and a brood of young ones [probably Henry Austin's children] gathered around, climbed on us, counted our buttons, pulled our hair, and made us generally welcome." A gang of lumberjacks then



HENRY AUSTIN IN 1904



JAMES MORGAN

came in for supper. "When we thought they were fairly settled for the night and were apparently going off in a snooze," complained Stoddard, "those men of Belial got up, knocked around the furniture and stove, rattled pots and kettles until the rooms were full of steam and the air of frizzled pork and profanity, then went to the woods, whence, with the first grey streaks of morning light came the sound of their axes and the crash of falling trees."

Romance was not lacking in the career of Jones Ordway, although that hard-headed Yankee backwoodsman would have been the last to recognize it. Starting from poverty, he rose to become one of the leading lumbermen of New York State. After he had made a place for himself in Adirondack logging, he joined forces with James Morgan. The latter directed his enterprises from Glens Falls and delegated to his associates the local management of the Adirondack operations. In 1865 Morgan, A. M. Adsit, William McEchron and Ordway organized the firm of Morgan, Adsit and Company. They purchased the Cheney Mills on the south side of the Hudson at Glens Falls, comprising sawmills, limestone and marble quarries and docks on the canal. Adsit died in the spring of 1871. In the fall of that year his interest was sold for \$75,000 to J. Underwood, and the firm name was changed to James Morgan and Company.

James Morgan died on August 1, 1873, trapped while investigating a blaze in his barn. At the time of his death his firm owned 60,000 acres of timber lands in Essex and Hamilton counties, and its five water mills at Glens Falls had a capacity of 40,000,000 board feet per annum. In January, 1874, Morgan's interest was bought by W. H. Weaver and Company of Albany and Morgan's son-in-law, William E. Spier, of Glens Falls. The name of the firm was changed to Morgan Lumber Company, and Ordway became its president.

Unlike Morgan, Ordway spent most of his life in the Adirondacks, and he was preeminently identified with Township 34. Ordway was born in Stratford, Vermont, on January 3, 1813. At the age of twenty he arrived on foot in Glens Falls, carrying everything he owned on his back. In 1840 he opened a hotel at North River and at the same time engaged in farming and in a lumber business. He soon sold his hotel and concentrated on lumbering. Ordway had married Clarissa Chambers of Caldwell, Warren County, in 1835. They had two children, William and Helen, both of whom died in their twenties.

During the early logging of the central Adirondacks, the felled trees were hauled by oxen. In his North River days, Ordway was known as one of the three best ox teamsters along the upper Hudson. The others were Hank Crandall and Pete Breshenham. Crandall, like Ordway, became wealthy in the lumber business. Breshenham, a younger man, joined the army at the time of the Civil War and was wounded in action. He returned to North River to live on his pension and never resumed active work.

Ordway worked his employees hard, and himself as hard as any of them. He demanded strict compliance with his instructions and, to make sure that they were being carried out, made frequent unannounced visits to the various scenes of his operations. His niece, Mrs. William Harvey of North River, recalls that he had the habit of appearing suddenly at Blue Mountain Lake at ten in the morning, having started before daybreak from his home at North River, eight hours' drive distant.

Forest Free-for-All

The logging practices described in this chapter and in Appendix A, unless otherwise noted, were those in vogue in Township 34 during the nineteenth century. They were, in the main, characteristic of all the forests bordering the headwaters of the Hudson.

The logging of Township 34 began in 1849 and came to a virtual close in 1906, when New York State acquired five-sixths of the township and took the land into its Forest Preserve. The great bulk of the cutting was done by Jones Ordway between 1863 and 1888. Before we observe him and his lumberjacks at work, let us take stock of the forests they invaded. The important species of Adirondack trees were enumerated as follows by the late William G. Howard, Director of the Division of Lands and Forests of the New York State Conservation Department (*The Ad-i-ron-dac*, July-August, 1948) :



JONES ORDWAY



CLARISSA CHAMBERS ORDWAY



HELEN ORDWAY JEFFERS



WILLIAM JAMES ORDWAY

First, the conifers or "softwoods," as they are called, which are, with one exception, evergreens. These are the pines, including white pine, Norway or red pine, pitch pine and a very little jack pine; the spruces, red, white and black; the hemlock; the balsam fir; the white cedar; and the one deciduous conifer, the tamarack. The hardwoods, or broadleaved trees, are principally beech, yellow birch and sugar maple with some white and gray birch, red and white oak, white and black ash, red maple, elm, basswood, black and pin cherry and poplar.

When white men first entered the American wilderness, Europe, and before it Asia, had learned from bitter experience the cost to their civilizations of ravaged forests. The native American pioneer thought of the woods, and of what grew and lived in them, only in terms of his own survival, but there were far-sighted conservationists, as Gurth Whipple points out in his *Fifty Years of Conservation in New York State* (published by the New York Conservation Department), among the European administrators who came to America during colonial days. Thus, the Earl of Bellomont, colonial governor of New York from 1698 to 1701, tried to limit the cutting of big pines for masts for sailing ships. Later he recommended that four or five trees be planted for every tree cut.

In trying to effect a compromise between silviculture and the sawmill, Lord Bellomont was moving, far ahead of his time, toward what is now called selective logging. Nelson C. Brown, in his recent book, *Logging* (published by John Wiley and Sons, New York), prefaced a discussion of this complex subject by a general definition of selective logging as "the removal of some of the larger, mature or overmature trees with widely flexible diameter limits to obtain current profits from the logging operation and at the same time to improve and perpetuate the forest for later cuttings." The practices of the science—they vary according to their exact objectives and to the species, the ages of the trees, the locality and its conditions—include the restriction of cutting to trees of specified minimum diameters, sparing the younger trees; the saving of healthy older specimens to serve as seed trees to propagate a new wind-sown crop, and the removal of larger trees so formed or situated that they rob younger trees of light and room in which to grow. Nowadays foresters are inclined to consider a virgin forest of large aged trees unhealthy in that it shuts out light and gives no chance for undergrowth needed for replenishment and, incidentally, to nourish game.

By the time Jones Ordway began lumbering Township 34, some 150 years after the Earl of Bellomont had made his recommendations, the latter had long been forgotten. Ordway and his contemporaries left the younger trees standing. They were not interested in conservation, but they found millions of large conifers with which to supply the sawmills; and the larger the tree, the less was the cost of handling per foot and the cheaper the lumber. Many of the white pines they cut were 150 feet high; some had attained a height of 200 feet and a diameter of six and a half feet. The Adirondack forests supplied the demands of New York's industry during a period of enormous expansion. Between 1840 and 1890 the state's sawmills consumed the growth of centuries.

With the development of the woodpulp industry, stimulated by the evolution of the sulphite process for making chemical woodpulp, first tried in 1867, the loggers began to cut the smaller softwoods. One of the earliest pulp mills, if not the first, to appear in the upper Hudson watershed was that built at Luzerne in 1869 by A. Pagenstecher, who organized the Hudson River Pulp and Paper Company to operate it. About 1878 the Adirondack Pulp Company began to produce pulp at a mill at Warrensburg on the Schroon River. During the next thirty years, pulp mills were built at Cohoes, Waterford, Mechanicville, Schuylerville, Glens Falls and other Hudson River points.

Within what were then regarded as the borders of the Adirondacks, the cutting of trees for pulpwood did not get under way until around 1890, after Ordway's day, when the loggers began to fell immature as well as mature trees for the pulp mills. Spruce was the timber then sought in the Adirondacks for pulpwood. Between 1895 and 1900 the mills began to accept also hemlock, pine and balsam. "While the lumbermen formerly took nothing less than two-log trees, leaving nearly all that were twelve inches or less in diameter on the stump," reported the New York State Forest, Fish and Game Commission in 1900, "the wood pulp men cut all the trees of certain species, large and small. This close cutting of the spruce and other kinds left no provision for future growth, and thinned the forests so severely in places that further damage was inflicted by winds and ice storms."

The closing years of the century saw the first signs of co-operation between the loggers and the foresters. It was conceived in time to save New York's private timber resources from complete exhaustion by the demands for lumber, wood pulp and — still by far the largest of the uses of timber — firewood. But the effects of the indiscriminate cutting of the nineteenth century are apparent in the records, discussed in Appendix B, of the great shrinkage in New York's timber output during the last 100 years.

The Logger's Calendar

The sole means of conveying logs from the forests of the upper Hudson watershed to the mills at Glens Falls was to draw them to the nearest sizable stream tributary to the Hudson and drive them down on the current of the spring floods. During Ordway's time, and until well into the present century, all logs were transported from the cutting grounds to these tributaries in winter weather, when enough snow had fallen so that they could be drawn on sleds.

Until around 1890 the cutting did not begin until cool autumn weather had set in. Although this custom appears to have been general in the northern states during the nineteenth century, I have found no explanation in the standard reference works on lumbering. Men with some recollection of Adirondack logging practices of that period are not unanimous as to the reasons. Those I have elicited fall into two groups, the first related to preserving the quality of the timber and the second to labor supply:



FINCH, PRUYN AND COMPANY'S SAWMILL AT GLENS FALLS ABOUT 1900

1. The timber was then used for lumber, not pulpwood. Cutting was delayed "until the sap was down" because softwood logs cut in spring or summer and left lying in the woods during hot weather — particularly pine logs — attract woodworms that bore into them. Public prejudice against wormy lumber was greater then than now.

2. The use of hemlock timber and the practice of peeling the tree where it had fallen — which, as will appear later, necessitated cutting in spring or summer — had not yet spread to the central Adirondacks. These earlier lumbermen could therefore afford to await the season of most plentiful labor supply, which was autumn. Some lumberjacks were part-time farmers, who stayed at home until they could get their hay in. Others spent the summer in the more leisurely and lucrative occupation of guiding tourists and sportsmen. Still others were released in autumn from the sawmills along the Hudson, which reached their peak of activity during the summer, working up the accumulation of logs driven down the river in spring. Furthermore, heat and insects made summer work in the woods less acceptable to the men.

Until the 1890's Adirondack hardwood trees were left almost untouched. Beech, birch, maple, oak, elm, cherry and ash float poorly. As they were too heavy to dislodge in log jams there was no way of sending them to the mills. Use as fuel claimed a few that grew around the settlements or the iron ore furnaces (which turned them into charcoal) or the wharves of the small wood-burning steamboats that appeared in 1878.

Throughout the century hemlock bark was in demand for tanning leather. Beginning about 1850 tanneries were established at several points on the western, southern and eastern borders of the Adirondacks to utilize the hemlocks growing on the fringes of the forest. The peeled logs were left to rot, for hemlock timber was considered of poor quality. The tanbark, waste product of the tanneries, was sold for use in circus rings and riding academies. It was also spread on cobblestoned city streets to deaden the sounds of wagon wheels and clattering hoofs near a house in which a member of some wealthy family lay ill, before the days of private hospital pavilions.

The tannery nearest the central Adirondacks was at North Creek. It made sole leather. Occasionally, a wagon load of hemlock bark was sent there from Township 34, but



OLD WHITE PINES THAT ESCAPED
THE LUMBERJACK

Camp Pine Knot, Raquette Lake, 1949.

PULPWOOD LOGS ENTERING THE PAPER MILL'S GRINDERS

From *Warren County, a History and Guide*, U. S.
Works Progress Administration (New York), 1942.
Reproduced by courtesy of the Warren County
Board of Supervisors.

the cost of transportation usually left a loss. Therefore, as there was no market for the timber, hemlocks, like the hardwoods, were ignored by the local lumbermen. About 1890, when white pine and spruce were becoming scarce, the Hudson River sawmills discovered that hemlock would serve for structural purposes. Within a year or two the price of hemlock timber at North Creek rose from almost nothing to \$8 per thousand board feet and then to what was considered the outrageous figure of \$10. A few years later the pulp mills, too, opened their gates to hemlock. Throughout the Adirondacks, hemlocks began to fall to the lumberjack's saw. As hemlock does not float well unless peeled, the bark still had to be removed, but in the central Adirondacks it was the bark that was left to rot for lack of cheap transportation, while the peeled logs were driven downstream. Adirondack hemlock is still used for lumber and as pulpwood, but the tanneries have virtually discarded the bark for other processes.

As bark peels readily only while the sap is still flowing, hemlocks had to be cut in warm weather, usually between May 15 and August 15. Therefore, with the advent of hemlock into their operations, Adirondack loggers for the first time began cutting in spring. Within a year or two this practice was extended to the cutting of other softwoods for the pulp mills, most of which preferred to receive their logs peeled.

The story of the tree from its felling to its arrival at water is told in Appendix A. There are described chopping and peeling, the supersession of the ax by the crosscut saw, the bucking (sawing) of the trees into logs of the traditional Adirondack thirteen-foot length, the dragging of the logs by oxen or horses to skidways on which they were piled to be loaded on sleds as soon as the snows came, bobbing (the descent by single sled to larger skidways), and the final two-sled haul to the banking ground. At the end of that appendix there is a glossary of some of the colorful terms used in logging parlance other than those explained in the text.

The Banking Ground

A banking ground is the frozen surface of a headwater which, in the spring floods, starts the logs on their passage downstream.

The Eckford lakes and that minor part of Township 34 which lies to their northwest are in the St. Lawrence watershed. The larger part of the township lies southeast of the lakes, and most of its waters are tributary to the Hudson. Ordway lumbered the forests on both sides of the lakes but sent all his timber down the Hudson. He drew it to the basin which appears on the United States Geological Survey Map of 1900 as 34 Marsh, but was known locally as 34 Flow or, simply, 34, until it was renamed Lake Durant. The Flow drained into Rock River, Cedar River and the Hudson.

The logs from the hills northwest of the lakes were drawn on Ordway's sleds overland — the drivers also used short cuts over the lake ice when it was thick enough — to the eastern end of Blue Mountain Lake and thence to 34 Flow, the head of which lay about three-quarters of a mile southeast of the lake. In the larger area southeast of the lakes, Ordway began cutting in the forests nearest the Flow and gradually extended his operations to the southwest and south until, in the 1880's, they reached the high Blue Ridge area. He drew out his logs over a two-sled road which ran along the banks of Balsam Lodge Stream. The latter, which drains through Rock Pond into 34 Flow, took its name from a lumber camp of Ordway's which stood where the Cascade Pond road crosses the stream, one-quarter of a mile southeast of Grassy Pond. During the first year or two, Ordway started his drive from a banking ground half a mile below the Lodge and two miles above the Flow. Thereafter he used the Flow itself as his banking ground. His main two-sled road to the Flow ran alongside Balsam Lodge Stream.

Banking grounds were dammed for accumulation of water and for controlled release of the logs in spring. Thirty-four Flow, two miles long, was dammed at its outlet into Rock River. Although this increased the surface area of the Flow and afforded a large banking ground, the latter, when logging was active, had to be extended up Balsam Lodge Stream to the head of Rock Pond, until the three-mile stretch between that point and the foot of 34 Flow was entirely covered with logs and blocked to sleds. With such congestion, further loads



BANKING GROUND FOR LOGS AT ELM LAKE, HAMILTON COUNTY

From the New York State Forest, Fish and Game Commission's *Annual Report* for 1904-1906.

had to be dumped on so-called roll-banks, plateaus above and near the banking ground. When the thaw came, the logs were rolled from these plateaus into the water.

Before the thaw came, a boom — a series of logs linked by ropes or chains passed through holes drilled in the adjacent log ends — was strung across the lower end of 34 Flow from shore to shore just above the dam to prevent the massed logs from crushing the dam and to keep them in check for controlled release. This was called the head boom. A tail boom was stretched across the upper end of the Flow to keep the logs from stranding on the upper shores in a strong east wind.

The Drive

Log driving had its origin in the Adirondacks. Timber tied in rafts was floated down the Hudson to Albany as early as 1758, and the practice was not new then, but the experiment of the Fox brothers on the Schroon River in 1813 was the first attempt to drive single logs downstream on the currents of the spring freshets.

With these freshets, a vast head of water accumulated in the 34 Flow reservoir behind the dam. On the day of the start of the drive, water was allowed to run out of the dam's sluiceway into the bed of Rock River for about half an hour before the first logs were released. When the water reached the inlet of Rock Lake, about two and a half miles below the dam, the gate was opened to let the logs pour out. At the outlet of Rock Lake, also sealed by a dam, the release was controlled in the same way. If the water had not been allowed a headstart the logs would have caught on rocks not far below the sluiceways and piled up in jams, the main hazard of log driving.

The process of emptying 34 Flow of its massed logs usually took from two to four weeks, depending on the number of logs and on the weather. The sluiceway was shut from twilight to dawn. Work had to be suspended, too, whenever an east wind blew the logs up the Flow, away from the dam. At such times the workers sat around and smoked.

The job of the log drivers was to prevent jams and keep the logs moving down stream and river. The driver was armed with a cant-hook or a peavey, and a pike pole up to ten feet long, capped by an iron screw spike and hook. Some drivers stood watch at coves or bends in the banks or on bars or islands to keep logs from clustering there. Others tailed the drive, clearing the shores. Among these was the log rider, an expert balancer who stood on a floating log, just far enough from one end to keep his feet out of water, and poled his way along the shore to free logs that had caught. The roster of log riders included, around 1870, Tommy Blue and, around 1900, John Gates of Blue Mountain Lake and George Springs of Indian Lake. Less skilled men rode a cooter, a raft of two logs bound with ropes or pliable yellow birch saplings.

Often a log would lodge on a rock in midstream. Another log would catch on the first, and quickly the jam would extend itself upstream. It was likely to grow in height, too, if the current was swift, for then new logs would pile up on the jammed logs until the jam looked like a heap of giant jack straws. If the river curved at that point, the jam might also grow in breadth to extend from bank to bank. Generally, however, the midstream log jams ran lengthwise to the watercourse. These jams were the most difficult and dangerous to break. The drivers who dealt with them worked from boats.

In some instances the boat crews resorted to a charge of dynamite but, more often, they relied on their brawn and dexterity. Their craft, known as a jam boat, was about fourteen feet long with a beam of four feet. All boats used during the earlier part of the period were pointed at both ends; in later years, boats with a pointed bow and a square stern were introduced. There was no V-shaped keel, but the bottom boards sloped from bow and stern to a small flat space amidships. This rocker-like bottom gave the boat steadiness and made it easier to manoeuvre in the swift currents. The depth amidships from gunwale to bottom plank was eighteen to twenty-four inches. If the boat hit a rock while headed across the current it was likely to capsize; hence it was rowed against the current. There were three men in the crew: the bowsman; the oarsman, who sat amidships and rowed; and the sternsman. If a log swirling downstream got caught under the bow, it was the bowsman's job to push it out from under, so as to prevent it from overturning the boat. As the boat approached the jam, the bowsman, on his knees in the bow, hooked his pike pole into the nearest log and pulled the boat alongside. The oarsman jumped out to hold the boat, followed by the bowsman and the sternsman, who went forward to attack the jam with their peavies, working their way through to the key log, the one which had started the jam. The jam was apt to break suddenly, sometimes with a deafening roar. At the first sign of loosening, the sternsman and bowsman ran for the boat. The oarsman, who had been holding the boat, waited for the



BRIDGE AND SLUICEGATE AT 34 DAM, AROUND 1900

Photographed apparently after all logs had been released into Rock River (in foreground).



HIGHWAY BRIDGE AT THE SAME POINT, 1950



RIVER DRIVERS, SLEEPING TENTS AND PORTABLE COOK SHANTY

Most of the men, including the one in black, kneeling at the right, are holding peavies.
From U. S. Bureau of Forestry's Bulletin 34.



PIKE POLE USED ON
RIVER DRIVES

sternsman to get in. As soon as the bowsman had reached the boat, the oarsman boarded her. Then the bowsman pushed the boat clear and jumped in. With all hands aboard, the oarsman rowed away at top speed.

The safety of the boat's crew depended mainly on the oarsman. Waiting at the edge of the jam for his mates, he had to exert himself to prevent the boat from being drawn under the jam and lost. Rowing away, he had to avoid becoming entangled with the loosening logs after the jam had begun to break. A failure of the oarsman's strength or skill was almost certain to bring death to the men by crushing or drowning.

Some of the dangerous rapids encountered on the drives are mentioned in the following passage of Pete Fosburgh's article in the *New York State Conservationist* of April-May, 1947, based on nineteenth century reminiscences of an old-time lumberjack and log driver, "Yankee John" Galusha of Minerva:

If the river was good and it stayed good, you could put a log in at Newcomb and it would show up at the Big Boom in a matter of only two days. But with 13-foot logs, there was always trouble somewhere. The Boreas was bad all the way down. The Hudson was bad at Ord Falls, below Newcomb, bad again just above the mouth of the Indian, and very bad on the big bend below Blue Ledge, near the Deer Den. Even if the drive got through those spots, it could always hang up on the Moulton Bars at Warrensburg. The worst, though, was always that stretch past the Deer Den. That was where Russ Carpenter smashed up his bateau and disappeared under a boiling mass of logs. Months later some children found him 30 miles downstream when they saw a piece of red cloth sticking up through the gravel near Stony Creek. It was Carpenter's handkerchief, still tied around his neck.



DYNAMITING A LOG JAM, MOOSE RIVER

Reproduced by courtesy of the photographer, James Fynmore, Jr., and of the Gould Paper Company.

At the time of the accident Carpenter was not driving logs. He was alone in his boat, displaying his prowess as oarsman in a challenge, which, as I have heard the story locally, was accepted by another well-known oarsman, Ed Repetoi. After Carpenter went down, Repetoi, according to one account, tried to rescue his rival. At any rate, Repetoi, too, lost his life that day. The tragedy occurred around the year 1891. The rapids at the Deer Den are about four miles downstream from the mouth of the Indian and two miles across country south of Mink Pond.

Jams that extended from the shore were less dangerous to break, because the men could generally get back to terra firma in time — but not always. When a particularly perilous log jam had to be broken, the foreman called for volunteers, and they were forthcoming. The very hazards of log driving attracted some men. Fosburgh lists McGar, Culver, Bruno, Lewis, Houghton, Dillon and “a fellow called Frenchie who never would tell anybody his name” among the drivers who went to their deaths in the waters of the upper Hudson. More than a few drivers lost their lives trying to save a comrade marooned in midstream or floundering in the torrents.



DRIVE OF FOUR-FOOT LOGS, VIEW UPSTREAM

The logs should be drifting downstream into the left foreground of the picture, but the wind, stronger than the current, is holding them back. This finally caused a log jam. Photograph, taken May 12, 1939, reproduced by courtesy of Finch, Pruyn and Company, Inc.



LOG JAM, MOOSE RIVER

Reproduced by courtesy of the photographer, Dante Tranquille, and of the *Utica Observer-Dispatch*.



BREAKING UP A LOG JAM, MOOSE RIVER

Reproduced by courtesy of the photographer, Dante Tranquille, and of the *Utica Observer-Dispatch*.

Driving practices were not uniform within the Adirondacks. On other rivers — for instance, the Moose — the jam boats were square at both ends, and the bowsman and sternsman had paddles with which they steered the boat. They were considered more important than the oarsman and got higher wages, whereas on the Hudson it was the oarsman, sole navigator as well as propeller, who commanded the premium.

Injury and death were not the only risks of log driving; illness and exhaustion took their toll. There were no Sundays on the river, for the drive had to be pushed while the waters were running high. The men worked from dawn to dark, seven days a week, wet to the skin with icy spring water and exposed to the full force of the winds. By the time they were thirty or thirty-five years old, many were crippled with muscular rheumatism.

A log drive was conducted by a gang of men under one foreman. Wherever two or more operators found their logs mingling with each other on their way to or down the Hudson, they combined, of necessity, to hire a gang and a foreman, for the men could not drive one owner's logs separately from another's. As the lumbermen during the first half of the century gradually worked their way from Glens Falls up the valley of the Hudson and branched off into the upland forests, the tributaries in the spring floods poured logs from a growing number of operators into the Hudson. The river, flowing down to Glens Falls, gathered logs from so



A JAM BOAT ON THE AUSABLE RIVER IN THE 1890's

From U. S. Bureau of Forestry's Bulletin 34.



JAM BOATS ON THE HUDSON, PERIOD 1933-1938

Reproduced by courtesy of Finch, Pruyn and Company, Inc.

many of them that at some point it became expedient for the operators to supplant the informal co-operative drives by a full-fledged partnership. Through the courtesy of Lyman A. Beeman, president of Finch, Pruyn and Company, Inc., I am enabled to reprint in Appendix C the partnership contract of March 29, 1862. In that year the large joint drive down the Hudson started at Rist's Landing, three miles up the river from North Creek, at the present site of the Whispering Pines restaurant. The contract sets forth in careful detail the conditions for the conduct of the drive and the proration of the costs, according to the number of logs sorted out at Warrensburg and at Glens Falls for account of each operator, as identified by his mark which had been stamped on at the skidways. The signatories included all the sawmill owners of these two districts and the independent loggers of the upper Hudson watershed. Among the thirty individuals, partnerships and firms subscribing to the 1862 contract were several of the lumbermen who have been mentioned in this book, including Jones Ordway (who in this instance spelled it Ordaway, as he often did) and James Morgan.

COPY
A STATEMENT OF LOGS
PUT INTO THE
HUDSON RIVER AND ITS BRANCHES,
For FINCH, PRUYN & COMPANY, Inc. During the Year ending May 1st, 1928.

AT WHAT PLACE PUT IN	Bark	Cedar	Ash	Pine	Spruce	Hemlock	TOTAL
Above the Newcomb Dam,							
Between Newcomb Dam and Cedar River,							
In Cedar River,							
In Cedar River and its Branches,							
Between Cedar River and Indian River,							
Above Indian Lake Dam,							
In Indian River and its Branches, below said Dam,							
Between Indian River and Boreas River,							
In Boreas River and its Branches,							
Between Boreas River and Rist's Landing,							
Between Rist's Landing and North Creek,							
In Elk Pond Stream,							
In North Creek,							
Between North Creek and Factory or Mill Creek,							
In Factory or Mill Creek and its Branches,							
Between Factory or Mill Creek and Potter's Creek,							
In Patterson Creek,							
Between Potter's Creek and Schron River,							
In Schron River above Black Brook,							
In Black Brook,							
Between Black Brook and West Branch (of Schron River)							
In Elk Lake, above the Dam,							
Between Elk Lake Dam and Bridge on Branch,							
Between Bridge on Branch and Mouth of Branch,							
Between said West Branch and Paradise Outlet,							
In Paradise Lake and its Outlet,							
Between Paradise Outlet & head of Sch's Lake including Alderbrook,							
In Schron Lake,							
In Mill Brook, (emptying into Schron Lake)							
In Trout Brook and its Branches,							
Between Schron Lake and Brant Creek,							
In Brant Lake and Creek and their Branches,							
Between Brant Creek and head of Tumble Head Falls,							
Between head of Tumble Head Falls and Richards Mills,							
Between Richards Mills and Emersons Mills,							
Between Emersons Mills and Pulp Mill,							
Between Pulp Mill and Hudson River,							
Between Schron River and Stony Creek (emptying into Hudson)							
In said Stony Creek and its Branches,							
Between said Stony Creek and Sacandaga River,							
In Sacandaga River above Lake Pleasant Branch,							
In Lake Pleasant Branch and its tributaries,							
In Sacandaga River between Lake Pleasant Branch and Wells,							
In West River (of Sacandaga) above Plasco Dam,							
In Arietta Branch of West River,							
In Hamilton Stream,							
In said West River bet'n Plasco Dam and Lot No. 10 on bow tract,							
In said West River below Lot No. 10, On Bow Tract,							
In Nine Mile Creek,							
In Vero Creek,							
In Sacandaga River between Wells and Hope Centre,							
In West Stony Creek (emptying into Sacandaga),							
In East Stony Creek (emptying into Sacandaga),							
In Sacandaga River between Hope Centre and Northville Dam							
Between Northville Dam and the Fish House,							
In the Vly Creek,							
Between the Fish House and Hunterville,							
Between Hunterville and Hudson River,							
In Paul Creek below Hunterville,							
Between Sacandaga River and Spier Falls,							
Between Spier Falls and Little Bay,							

NO LOGS OR WOOD CUT OR PUT IN DURING YEAR 5/1/27 to 5/1/28.

TOWN OF _____ COUNTY, NY

I, J. E. WILLIAMSON, Being duly sworn, say that I have carefully compared the above statement with all the accounts of logs measured and marked _____ and verify believes it to contain a true and full record of all the said Logs which have been put into the Hudson River, or any of its tributaries, within one year next preceding the first day of May, 1928, for the above named

FINCH, PRUYN & COMPANY, Inc.

Sworn before me this 26th day of May, 1928
Notary Public
J. E. Williamson

This form came into use about 1900 by the members of the Hudson River Boom Association. The reproduction is a report by Finch, Pruyn & Company, Inc. for the year ending May 1, 1928, during which there was no drive. Although there is a column for ash, that poorly floating hardwood was not driven down the river. It is probable that this column was used to keep track of very small quantities of valuable hardwood logs, mainly ash and cherry which were cut and hauled to the banking grounds with the softwood logs and then either sawn in portable mills or drawn by sled or wagon to small local sawmills.

The drive partnership may have had its inception as early as 1849, for in that year the Hudson River Boom Association, probably composed largely or entirely of the parties to the 1862 contract or their predecessors, began to build what became known as the Big Boom, at Little Bay, in the Big Bend of the Hudson, about four miles above Glens Falls. This installation, completed in 1851, was designed to catch all the logs that came floating down the river, to facilitate sorting and to prevent pirating. Most of this timber was destined for Glens Falls sawmills and, in later years, pulp mills. But, just as some of the logs from the upper Schroon were driven past the booms of the Warrensburg mills into the Hudson, so some of the logs which came to the Big Boom were diverted, after sorting, to be rafted or driven further down the Hudson to the mills below Glens Falls.

Benson J. Lossing, the historian, who visited the Big Boom in the autumn of 1859, gave this description of the boom and of a break which had occurred in the spring of that year:

It [the boom] was made of heavy, hewn timbers, four of them bolted together raftwise. The ends of the groups were connected by chains, which worked over friction rollers, to allow the boom to accommodate itself to the motion of the water. Each end of the boom was secured to a heavy abutment by chains; and above it were strong triangular structures to break the ice, to serve as anchors for the boom, and to operate as shields to prevent the logs striking the boom with the full speed of the current. At times, immense numbers of logs were collected above this boom, filling the river for two or three miles. In the spring of 1859, at least half a million logs were collected there, ready to be taken into small side-booms, assorted by the owners according to their private marks, and sent down to Glens Falls, Sandy Hill or Fort Edward, to be sawed into boards at the former places, or made into rafts at the latter, for a voyage down the river. Heavy rains and melting snows filled the river to overflowing. The great boom snapped asunder, and the half million of logs went rushing down the stream, defying every barrier. The country below was flooded by the swollen river; and we saw thousands of the logs scattered over the valley of the Hudson from Fort Edward to Troy, a distance of about forty miles.

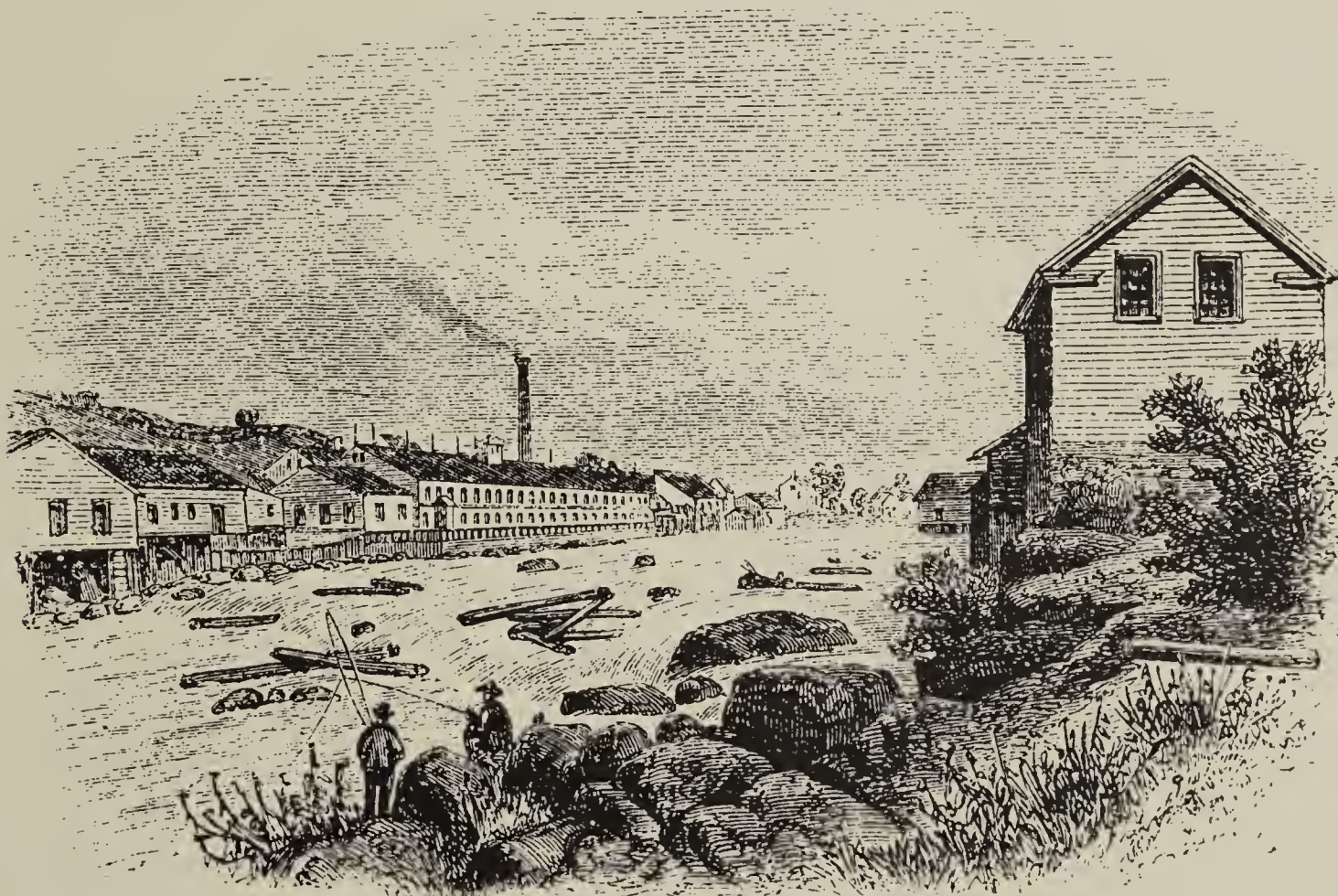
In the spring of 1913, another serious break occurred, this time in the so-called junction boom below the Big Boom. On the evening of March 27 high water and rushing logs succeeded in knocking the iron bridge at Glens Falls off its piers. By 1952, following a century's service, the Big Boom itself was finally removed; river driving on the Hudson was at an end.

Some time after 1862 the conduct of the large joint drives was taken over by the Hudson River Boom Association, which continued to run them on the principles illustrated by the 1862 partnership contract. The latter provided, as may be seen, for a minimum of two drives, one down the Hudson and the other down the Schroon River, and for the retention by the Warrensburg sawmills of some of the logs which came down the Schroon. One Hudson drive was to start at Rist's Landing, as stated. A second Hudson drive, if necessary, was to be started at Big Falls, just below the village of Corinth, about twelve miles upstream from the Big Boom. Lossing referred to these falls as Jesup's Great Falls and mentioned that they had formerly been called Palmer's Falls and, before that, Hadley Falls.

After Ordway's logs left 34 Dam, they traveled down upper Rock River into Rock Lake, thence down lower Rock River to its confluence with Cedar River and along the latter to its



THE BIG BOOM



VIEW AT WARRENSBURG

These two sketches were drawn in 1859 by Benson J. Lossing for his *The Hudson, from the Wilderness to the Sea*.

confluence with the Hudson. This stretch of about twelve miles was known as the Rock River drive, and during most of Ordway's years of activity he was the only operator driving it. At the mouth of the Cedar, or perhaps further downstream depending on the circumstances of the particular year, Ordway's logs entered a drive conducted jointly with one or more other operators or the association drive.

As more and more lumbermen in the course of years extended their cutting into the central Adirondacks, the starting point of the association's drive was gradually moved upstream, and the drive was divided into sections, each with its own gang and foreman. In the 1880's, for instance, the drive was being started from the confluence of the Indian River with the Hudson. The distance from the mouth of the Indian to the Big Boom, about seventy-one and one-half miles, was driven in four sections. The first, known as the upper drive, ran from the mouth of the Indian River to the mouth of the Boreas. The second, called the middle drive, ran from that point to the mouth of the Schroon River, at Thurman. The third ran from Thurman to the mouth of the Sacandaga River, at Hadley, and was known as the snake drive. When the river ran high, many logs were carried onto the low lying banks of this section. When the water receded, they were left stranded and had to be snaked back into the river by a horse harnessed to a grab-hook. The fourth section, called the lower drive, extended from Hadley to the Big Boom.

In later years, after the start of the association drive had been moved two and one-quarter miles upstream to the mouth of the Cedar River, the sections became known by the numbers assigned to them. These numbers and the lengths of the sections were as follows:

<i>Section</i>	<i>Miles</i>
1 Mouth of Cedar to mouth of Indian	2¼
2 Mouth of Indian to mouth of Boreas	9
3 Mouth of Boreas to mouth of Schroon	30
4 Mouth of Schroon to mouth of Sacandaga	15
5 Mouth of Sacandaga to Spier Falls	11½
6 Spier Falls to Little Bay	6
<hr/>	
Total	73¾

Nowadays, the drives on the tributaries are known as the upper drive and the drive down the Hudson as the lower drive. Because of the substitution of four-foot logs for thirteen-foot logs, the drives have changed in character as well as in name.

Many of the lumberjacks who worked in the woods during fall and winter reassembled in spring for the drives. They worked in gangs, the size of which depended on circumstances, particularly on flood conditions. On the upper or the middle drive of the Hudson there might be as many as sixty or sixty-five men in a gang. On the tributary drives the gangs were smaller. On his Rock River drive, Ordway usually employed fifteen to twenty men, includ-



LOGS LEFT IN THE HUDSON RIVER AT LOW WATER

From U. S. Bureau of Forestry's Bulletin 34.

ing two boat crews. His gang started at 34 Dam and worked its way twelve miles downstream to the mouth of the Cedar River or, perhaps, another two and one-quarter miles beyond that point to the mouth of the Indian, depending on where the Association was taking over the driving. To cover this twelve to fourteen miles Ordway's men might need from a week to a month, according to the volume of water and the quantity and rate of release of the logs. After the men had finished the Rock River drive, they generally found work on the Hudson drive.

The Association placed in charge of each section of its drive a foreman, who hired his own drivers. Among well-known foremen on the Hudson drives between 1880 and 1910 were Frank Carroll, Jack Donohue and Jones Ordway's brothers, Mose and Oscar. A Hudson River gang, which generally had several boats, worked its way downstream, returned to the starting point of its section and began over again. The return journey was made in wagons. The boats were also hauled back by team. After the beginning of service on the Adirondack Railroad from Saratoga to North Creek in 1871, the upstream trip was made by rail over stretches where the line ran near the Hudson.

"Logs generally travel about two miles an hour with a good stream flow," says a letter from Mr. Beeman, whose company still conducts a spring drive of four-foot logs down the upper Hudson, "and usually three-quarters to nine-tenths of the wood comes straight through. The balance may be held up a few hours or many months. The time required for us to pick up the stranded wood at the rear of the drive extends from the break-up, usually



LOGS AT THE BIG BOOM, GLENS FALLS

Photograph by U. S. Forest Service.

around the middle of April, until some time in June and we usually employ about 40 men in this operation.” The logs still marooned after the waters have receded must wait until the river again reaches them, which may be a year or two or several. The text of the 1862 agreement shows that the subscribers assumed it would take three years for all the logs started on any one spring drive to reach Glens Falls.

The costs of driving logs down the upper Hudson have varied during the past hundred years according to seasonal conditions, the volume of logs and wage rates. In the nineteenth century, in general, driving costs were absurdly low compared with any other form of transport then or now. In the 1880’s and 1890’s when the volume was large, a thirteen-foot market log could be driven seventy-one and one-half miles from the mouth of the Indian to the Big Boom for as little as 2 cents, equivalent to 10 cents per thousand board feet, whereas in recent years drives of four-foot logs, which cost, per foot, about the same to drive as thirteen-foot logs, have come to \$3 per thousand board feet.



AN ADIRONDACK LUMBER CAMP

From the New York State Forest, Fish and Game Commission's Annual Report for 1900.

The Men

In the nineteenth-century Adirondack forest camps, where the lumberjacks lived for several months during the cutting, skidding and sledding seasons, the cooking was done by women. A camp housed between fifteen and forty-five men, depending on the size of the operation, a woman cook, occasionally with a woman helper, and a chore boy. The ground floor of a typical Adirondack lumber camp had two large rooms. One was the cook room, a combination kitchen and dining room, where the men ate at long board tables. The other was the men's room, where the lumberjacks whiled away an hour or two after supper, smoking, reading (if they had learned), singing, grinding their axes and swapping yarns, before they climbed the ladder to the attic, to roll into their tiered bunks. The men's room was barred to the women, and the men were not allowed in the cook room except at meal times. The ground floor also contained a bedroom for the cook and, in some instances, a separate enclosure which housed the kitchen stove, a pantry, and a store room commissary where the men could buy tobacco and sundry small articles.

On the drives, the conditions of life were more transient. In the 1880's, along Ordway's Rock River drive, there were three shanties in which the men slept and ate. The first was at 34 Dam, the second at the outlet of Rock Lake and the third at the mouth of the Indian River. The food was prepared by a male cook and his helper. The helper was known as the cookee. His duties included the functions of assistant cook, potato peeler and dish washer. Along the Rock River drive, the cook and the cookee traveled from shanty to shanty by team, carrying supplies and blankets with them. On the Hudson drive the men sometimes slept in tents but more often in lean-tos. The lean-to was generally about forty feet long and had a log fire—where the men could thaw out and dry out—burning along the whole length of the open front. The cook and the cookee followed the gang by boat.

Until around 1890 the food served to lumberjacks was not distinguished by quality or variety. Salt pork, baked beans and bread were the usual fare, supplemented on rare occasions by venison or bear meat. Ordway provided for his men better than most operators. As we have seen, he raised mutton and potatoes for their table. In other camps, potatoes appeared only if they were cheap. One of Ordway's contemporaries, who operated in Township 7, was rumored to have let the beans sour before serving them, so that fewer would be eaten by the men. During this period the drive gangs were fed better than the lumberjacks.



LUMBER CREW AT DINNER, ADIRONDACKS, 1901
Photograph by U. S. Forest Service (taken by E. F. Keller).

By the turn of the century a great change had come. The operators had discovered that it paid to give the men the best food available and as much of it as they could eat — and that was no small quantity. Life in the Adirondack kitchen was not yet complicated by vitamin calculations and balanced diets. A green vegetable, almost unknown in the woods, was regarded as something to be eaten by animals, if at all. Meat, potatoes, baked beans, eggs and flour products comprised the substance of the fare. Salt pork was still the chief meat dish. Variants were mutton, smoked beef, ham and bacon. Bread and flapjacks were served in abundance. After a hard day's work in the woods or on the river, the lumberjack or driver could eat quantities which stagger the imagination of the sedentary. Tales are told in Township 34 of feats of consumption such as forty men eating, at supper, a bushel of boiled eggs (about 400 eggs) and three whole hams sliced and fried, not to mention innumerable loaves of bread.

The cooks, like all good cooks, knew how to improvise. During the cutting, skidding and sledding seasons, the temperature in the poorly heated camps was often too low for the bread to rise. This obstacle was overcome by an ingenious device. A circular shelf was nailed around the inside of a flour barrel near the top. Below the shelf, holes were bored through the staves for ventilation. When the dough had been mixed, a lighted lantern was placed on the floor of the barrel, the tray of dough was set on the shelf and the top of the barrel was covered with a blanket. The lantern generated enough warmth to cause the dough to rise. Those who ate the bread testify that its flavor bore no trace of kerosene.

Lumberjacks were well paid by comparison with other laborers. In the middle 1870's a lumberjack in Township 34 received from \$25 to \$30 a month and board. Stoddard, writing in the 1874 edition of his guidebook about the lumberjacks at Eagle Nest, remarked that during the driving season some of the men were able to earn from \$2 to \$3 a day. As specie payments were in suspense in those years, the amounts mentioned were paid in depreciated greenback dollars worth 30 to 50 percent less than the gold dollar in purchasing power.

The average pay in Adirondack lumber camps in 1900 — twenty-one years after the gold standard had been restored — was \$28 a month and board, according to Colonel William F. Fox's excellent history appended to the New York State Forest, Fish and Game Commission's annual report for that year. Colonel Fox noted that first-class men got better pay. Local recollections are that higher wages prevailed in the neighborhood of Township 34 both then and a decade earlier. In 1890 and 1891 a chopper or sawyer was paid \$45 a month if he could average eighty logs a day for the month (a top rate that few could attain — see Appendix A), \$40 for seventy logs and \$35 for sixty logs. Days when it rained so hard that the men could not work were their loss except as to board and lodging, which they received free during the entire period.

Men were paid better as drivers than as lumberjacks. At around the turn of the century, according to old-timers, rivermen, i.e. the log drivers who worked the shores, were getting



LUMBER CAMP

Photograph by U. S. Forest Service (taken by Eugene Bruce).



THE MEN'S ROOM, ADIRONDACK LUMBER CAMP

From U. S. Bureau of Forestry's Bulletin 34.



LUMBER CAMP ABOUT ONE MILE EAST OF BLUE MOUNTAIN LAKE VILLAGE, WINTER OF 1899
 Reading from left to right: 3rd man, holding shovel, Mike Lyden; 5th, with white beard, Ed Monteau; 6th, Fred Sawyer, a jobber who operated the camp; 8th, Robert G. Hanna; 9th, boy holding a plug of chewing tobacco bearing two round revenue stamps, Alfred Sawyer; 12th, holding ax, Dick McLaughlin; 13th, holding peavey, William Mitchell. Shingles of cabin are spruce bark. At extreme right is bobsled.

about \$1.50 a day. Boatmen, the elite of the profession, earned more. The bowsman and sternsman were paid \$1.50 to \$2. The oarsman, on whose skill the lives of the three-man crew depended, was at the top of the scale. Recollections vary as to the premium he commanded. In the late 1890's, according to two sources, an oarsman on the upper drive, from the mouth of the Indian to the mouth of the Boreas, was paid \$4 and an oarsman on the middle drive, from the mouth of the Boreas to Thurman, was paid \$3.50. These two sections, in the order named, were the most dangerous.

The superiority of the oarsman's status is implicit in these stanzas from an old river song about the cruel fate of an oarsman who fell from his high caste:

He run the boat against a jam and split her bow in two,
 And filled her full of water and washed away the crew.
 His boat lies on the bottom, the rigging's cast away,
 And he's breaking jams along the shore for a dollar'n a half a day.

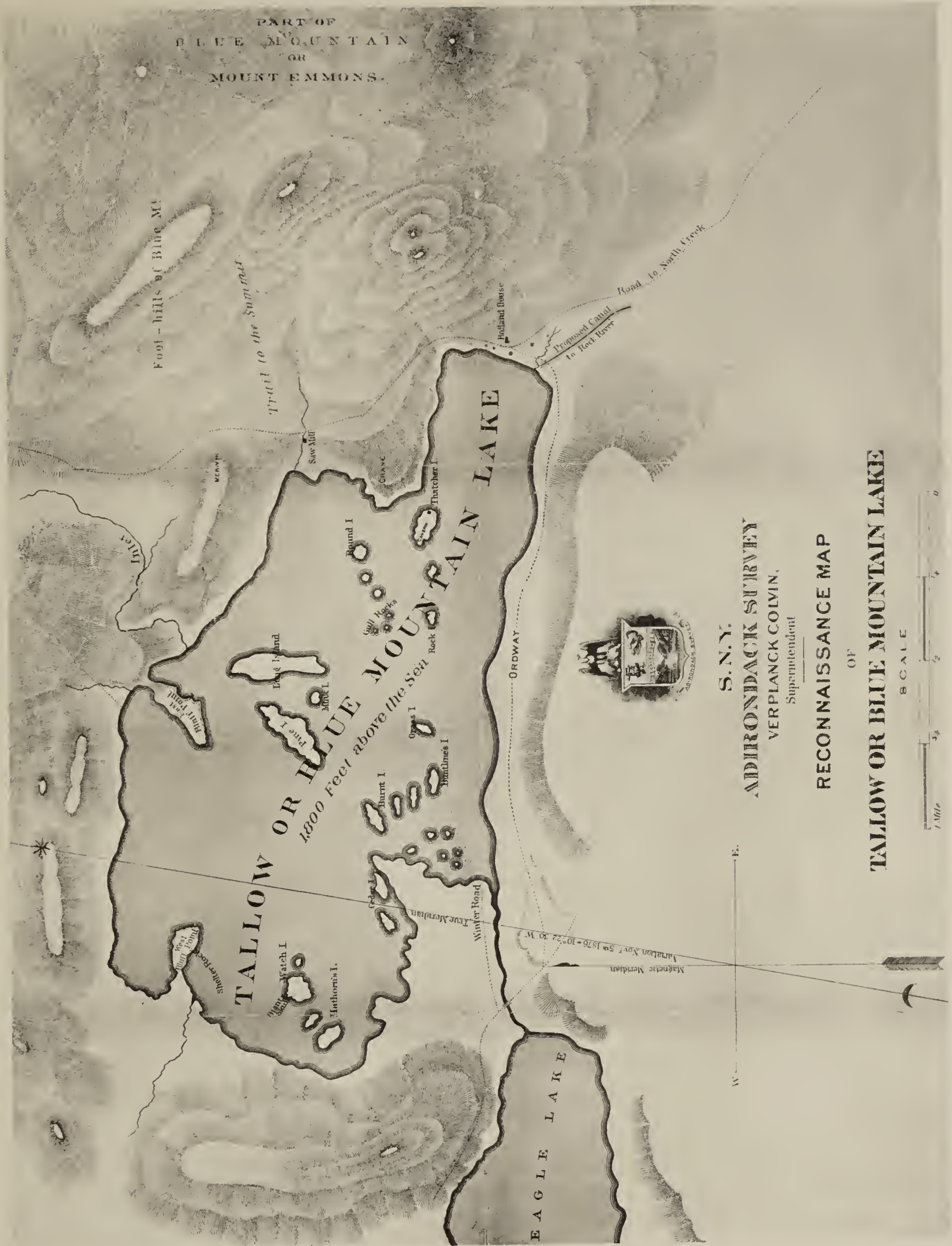
In 1904 a woman cook in a lumber camp in Township 34 — and she had to be first-class — was paid \$30 a month and board. This and the amounts previously mentioned could, of course, buy much more of the necessities of life than they would today. In Townships 34 and 19 wages were generally paid in scrip, which certain stores, saloons and hotels at Blue Mountain and Indian Lake villages were, by arrangement with the operator, prepared to cash.

In 1948 lumberjacks, rivermen, bowsmen and sternsmen in the upper Hudson watershed were earning \$1 per hour and oarsmen \$1.05, without board. The oarsman's job is no longer dangerously critical, for, as all logs are now bucked into four-foot lengths before being driven downstream, jams have become of small consequence compared with those of the past.

Lumberjacks and log drivers of the nineteenth century were not, for the most part, distinguished by thrift. The nature of their profession engendered a certain abandon during periods of idleness. Between jobs, many of the men spent their savings on whiskey and women in the nearest towns. The few who were inclined to boast of these holiday exploits on their return to camp were soon silenced by scorn. Of such a braggart, his camp mates were wont to remark, using the present participle of a censored four-letter word: "He does all his logging in town and all his ----- in camp."

The Raquette Holds Its Own Against the Hudson

In the region southeast of the Eckford lakes, Ordway, as has been related, had to draw all his logs overland to his banking ground at 34 Flow. By 1873 he had extended his operations to the area between Blue Ridge and the lakes. In that year he decided to reduce his costs by establishing a banking ground at Loon Brook and damming the latter, which drains into Utowana Lake, the Raquette River and the St. Lawrence, to divert it into Balsam Lodge Stream, 34 Flow, Rock River and the Hudson. The dam was built, but a flood soon washed it away. Ordway then planned to build a dam at the outlet of Utowana Lake and to cut a canal of about three-quarters of a mile from the northeastern corner of Blue Mountain Lake to 34 Flow with the object of causing all three Eckford lakes to drain into the Hudson instead of into the Raquette and the St. Lawrence. This canal is shown as "Proposed Canal to Rock River" on Colvin's map of 1876. The Commissioner of the Eastern Division of New York State Canals and Professor Farrand Benedict, teacher of mathematics at the University of Vermont and also a lumber operator on a large scale on the shores of Raquette Lake, were advocating a similar plan. They were backed by the lumbermen on Raquette, Forked, Long and Big Tupper lakes — all tributary to the St. Lawrence—who chafed under their confinement to the lean Canadian markets and wanted access to the Hudson River saw-mills. The Benedict plan differed from Ordway's in that it contemplated the drainage of all these lakes into the Hudson through a canal of one and one-half miles to be dug from Long Lake to Round Pond, the western source of the Hudson.



BLUE MOUNTAIN LAKE, 1876
 From the *Seventh Annual Report of the New York State Land Survey*, 1880. Reproduced by courtesy of the New York Public Library.



LOON BROOK, NEAR ITS MOUTH
ON UTOWANA LAKE

Verplanck Colvin, in his report on his topographical survey of the Adirondacks for New York State in 1873, described Ordway's plans and objected to them. Other conservationists rallied to his support. They were joined in their protests by the industrialists on the lower stretches of the Raquette River, who considered themselves threatened by the designs of the Benedict group. In consequence, the plans for the two canals were dropped.

Not long afterwards nature itself temporarily reversed its immemorial order of things. One morning in the spring of 1877, George Persons, a carpenter of Indian Lake, started down the Eckford lakes in a guide-boat with Fred Bassett to install windows in the cabin Bassett kept for wayfarers on the Marion River Carry and to do the same job for Chauncey Hathorn, who had a cabin for the same purpose, at Golden Beach on Raquette Lake. As Persons and Bassett rowed toward the outlet of Blue Mountain Lake, they heard a roar of water. Although there had been little rainfall over Blue Mountain and Eagle lakes, torrential local downpours over the hills south of Utowana Lake had heavily swollen Loon Brook and other streams flowing into Utowana Lake from the south. The result was to raise the waters of this lake so high that they were flowing not only from the foot of the lake into their normal outlet, the Marion River, but from the head of Utowana into Eagle Lake, and from Eagle into Blue Mountain Lake, reversing the natural flow. The rush of the waters through the channels, at that time

undredged and hence much shallower than now, produced the sound heard by the approaching travelers. "If you put this in your book, people won't believe it," said ninety-three year old Mr. Persons to me recently, "but I saw it and heard it."

By 1873 when Ordway's dam and canal plans were blocked, the Adirondacks were no longer a frontier land where the lumberman, the trapper or the sportsman could be a law unto himself. The long arm of regulation was reaching up from the south. The records of the Hamilton County Board of Supervisors' Proceedings at Hope, in 1878, quote a county law adopted in 1875 to the effect that "it shall not be lawful for any person to catch or take from any of the streams, brooks or ponds hereinafter named . . . any speckled or brook trout . . . viz., . . . Loon Brook running into 'Eckford Lake' sometimes called 'Lake Otewanta' [Utowana] and all the brooks and streams running into 'Blue Mountain Lake.' " The reason for the prohibition does not appear, but it is probable that the lakes were being stocked with trout.

Epilogue

By 1888 the Morgan Lumber Company had removed from Township 34 all timber which could be transported profitably at the prices then prevailing. In that year Jones Ordway, acting for himself, William McEchron and the widow and daughters of James Morgan — Olivia Morgan, Ida F. Spier and Sarah M. Abbott — sold to William West Durant (see the author's *Life and Leisure in the Adirondack Backwoods*, published by the Adirondack Museum) the whole of the township, approximately 25,000 acres in extent, excepting 1,050 acres previously sold by Ordway or his associates. The price was \$18,000, of which \$2,000 was payable in cash. Certain lumbering rights were reserved. The township was, in fact, lumbered extensively during the next eighteen years, at first under the rights reserved by Ordway and later under contracts let by Durant.

Thirty years after this transaction, Mr. Durant gave me his reminiscences of Ordway. The latter's wife, an invalid, lived in their home at Glens Falls. In the middle 1860's Ordway had established himself in a farmhouse at North River, about half a mile from the west bank. This house, one of the oldest in the upper Hudson watershed, is now occupied by Mrs. Genevieve Strong. The original central portion is said to have been built in the 1820's or 1830's by a Protestant minister named Green, from whom Ordway bought it. The two wings were built for Ordway by George Roblee. In this house, Ordway's housekeeper, Mary Persons, known as Melissa, member of a respected Indian Lake family, bore him three children, all of whom succumbed to diphtheria. Ordway's two children by his wife, as has been told, also died in their youth. In back of the house was a creamery, where Melissa made butter and cheese for sale. Many years later the creamery was moved across the road and converted into a residence, which still stands.

In 1885 Ordway and Melissa moved into a new house on the Hudson at North River, where Durant visited them three years later. In addition to her other attractions, Melissa must have possessed ability as a needlewoman for she stitched a considerable quantity of

bedlinen for F. C. Durant's Prospect House. Ordway, so Durant told me, could not read or write. Other reports contradict this. Whatever the degree of his literacy, Ordway was shrewd. He was also thrifty in the extreme. Although he kept a number of cows, Durant related, he would allow Melissa to use only a small quantity of butter for the household. The rest had to be sold. Ordway was not a drinking man, but on the day Durant arrived to close the purchase of Township 34 and pay the \$2,000 cash, Ordway had Melissa go down to the cellar and fetch a jug of very hard cider for Durant and himself. Durant offered Melissa a cigarette, but she chose one of his cigars instead. Like many country women of the period, she usually smoked a clay pipe.

Ordway died on April 12, 1890 — in his house at Glens Falls, according to his relatives. He left an estate of approximately \$500,000, including his timber and mill interests and his real estate holdings in Glens Falls. Ordway bequeathed to his wife the Glens Falls house, \$50,000 outright and a trust fund of \$50,000. To Melissa he left his home at North River, \$30,000 outright and a trust fund of \$50,000. There were smaller bequests to many relatives and friends. Ordway and his widow, who survived him by nine years, and their children are buried in the Bay Street cemetery in Glens Falls.

After Ordway's death, Melissa continued to live in the house on the Hudson at North River until it burned several years later. She then built a house for herself at North Creek, where she spent the rest of her days in solitude. She was estranged from her own family and from Ordway's, both of whom had frowned on the unconventional relationship. In her bitterness, Melissa made it known that she intended to spend all her money before she died so that none of it would go to those who disapproved of her. She lived most frugally, but when she passed away on May 24, 1902, without leaving a will, she had substantially achieved her



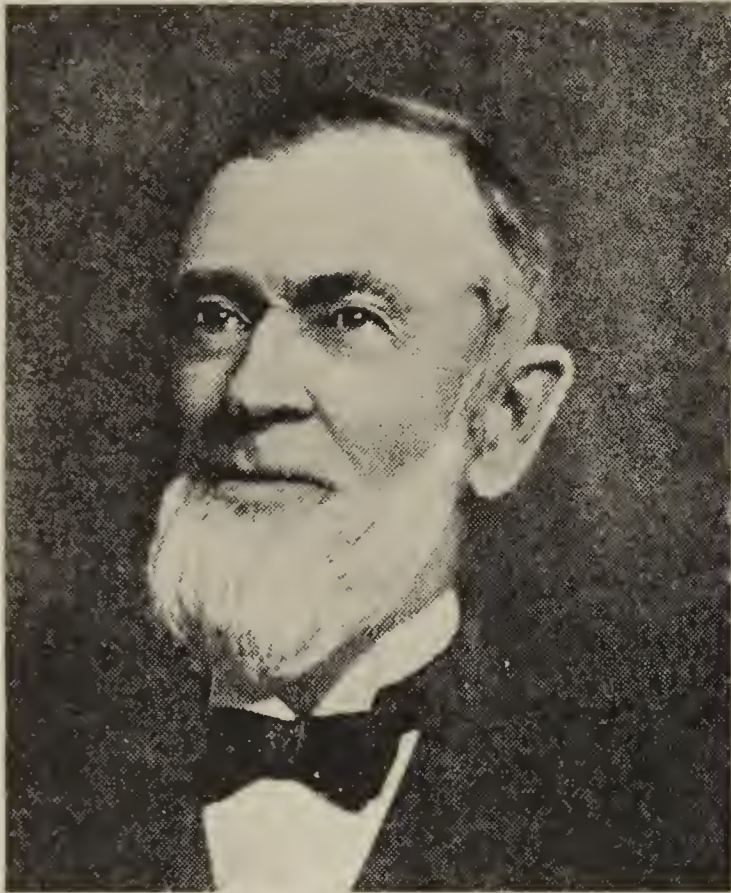
JONES ORDWAY'S HOUSE NEAR NORTH RIVER

Here he and Melissa lived from about 1866 to 1885.



HOME OF JONES ORDWAY AT CORNER OF WARREN AND LOCUST STREETS, GLENS FALLS
Here Jones, his wife Clarissa, and their children, Helen and William, died.

ambition. After the liquidation of her estate, there was nothing left but \$556.57, which went to defray administration expenses. She had presented a church to the Baptist congregation of North Creek and had spent the rest of her money, with conscious profligacy, on her house and on a mausoleum which she had built for herself in a local cemetery. On the latter she is said to have insisted on lavishing much more than the amount of the builder's estimate; it was said to have cost nearly \$10,000. The portal of the vault bears the date of Melissa's birth, February 7, 1833, but not the date of her death. This was by her wish, for, although Melissa died intestate, she had left precise instructions for her interment. Her remains, embalmed in a glass-covered casket, were laid in the tomb. Heavy cloth drapes were hung inside the bronze door, completely covering its grille, so as to shield the casket from the gazes of the curious; the door was locked, and the key dropped through a rear air duct into the vault, where it rests. Melissa would have been displeased to know that for several months after her death some of her woman neighbors were in the habit of inserting hatpins through the mesh of the grille in an effort to push the drapes aside for a glimpse of the casket; that through the ravages of time and weather, the vault in which she reposes, barred by her order, is sadly in need of repair; and that she now shares its occupancy with a family of owls. But these flaws are minor. Contemned in life, Melissa has attained in death the triumph she so carefully planned. Her tomb, at the top of a hill, towers over all the other graves and can be seen from points several miles distant in the surrounding valleys.



WILLIAM McECHRON

Ordway's sawmill interests at Glens Falls were sold by his executors to his partners, Spier and McEchron. Some years later, with these and their own holdings as a basis, the two men helped to form the International Paper Company. Spier was one of the four organizers and became a member of the first board of directors.

Between 1890 and 1915 many lake front lands in the Adirondack areas which had been lumbered by Ordway and his contemporaries were bought by well-to-do city families, who established private parks and built comfortable summer camps of the kind conceived in 1879 by W. W. Durant. In other instances the purchasers were clubs composed of such families. It must be remembered that these lands were still amply wooded with hardwood trees and that new softwood growths were maturing.

The development of the motor-car and the building of hard-surfaced highways in the 1920's brought larger numbers of people of moderate means to the Adirondacks. This movement created a demand for small campsites, inns, cabins and auxiliary facilities. Some private estates, with the residences which stood on them at the deaths of their original owners, have been surrendered for such uses. Others have been converted into boys' and girls' camps or presented to the state. This trend has been intensified by the impact of heavier income, inheritance and property taxes on their owners and by the rising costs of maintenance. Many of the private parks and large private camps are still owned by the descendants of their founders, but their era has passed its zenith. Large private houses in the Adirondacks, as elsewhere, are being swept out of fashion by social and economic currents. So are the types of hotels and clubs into which they might be converted. The lack of a new class of



HOUSE AT NORTH CREEK, BUILT BY MELISSA

This house, where Melissa died in 1902, is now the St. James Convent.

buyers leaves the fate of these private camps in doubt. In the course of time they are likely to pass into the hands of public agencies or institutions or to be sold for their scrap value.

Logging in the upper Hudson watershed had reached its peak in 1872, with a total of 213,800,000 board feet. Then it entered upon a long, almost steady decline. The receipts at the Big Boom in 1904, the last year for which figures are available, were only 54,177,800 feet. The subsequent story can be told only from hearsay and by inference from the later statistics for the Adirondacks and for the state as a whole (see Appendix B). This watershed, one of the regions most heavily lumbered during the second half of the nineteenth century, could respond only feebly to the influences which stimulated upturns in the state's output in the middle 1900's, in 1919-1920 and in 1929. But about 1935 the new demand for New York hardwoods generated a sharp revival of lumbering in the forests along the Hudson's headwaters, where the hardwoods had been virtually ignored. The marketing of these trees was made easier by the fact that by 1930 all the arterial roads of the region had been hard-surfaced. For the first time motor trucks began to carry logs in large quantities from forests which for decades had depended on river driving.

An interesting aspect of the growth of hardwood lumbering in the Adirondacks is the variety of hardwood articles now manufactured in villages within the Adirondack Park and on its borders. Riverside, for instance, makes bowling pins out of maple logs; at North Creek, ash logs go into handles of farm tools; while Tupper Lake produces furniture, bobbins and shuttles from maple, and wooden tableware from white birch. An Adirondack resident who

recently bought a picnic box lunch in Trinidad, British West Indies, was thrilled to find in it a Tupper Lake wooden spoon.

It is estimated that the annual commercial timber drain of the upper Hudson watershed, increased by the recent development of hardwood cutting, has now climbed back to a volume near the 1900 figure of 56,554,200 board feet. A large part of the present production is accounted for by the operations of one firm, Finch, Pruyn and Company. During the past fifteen years the company is said to have been cutting an average of 20,000,000 board feet per annum, of which roughly half has been pulpwood, three-eighths hardwood sawlogs and one-eighth pine and hemlock sawlogs. This firm owns 183,000 acres of timber lands in the area and manages them on a scientific basis. On most of these lands, the soil and climate are considered best suited to spruce and balsam. The older trees are cut, on a cycle of about thirty years, to make way for the development of the younger trees. In these sections the trees marked for cutting, as described by Mr. Beeman in the *New York State Conservationist* of August-September, 1949, are healthy spruce and balsam trees ten inches or more in diameter breast high, and diseased or undesirable trees six inches or more in diameter. After the cutting of these pulpwood trees, the marketable hardwood trees are removed. Deer assist in curtailing a new growth of hardwoods, for they like to browse on hardwood saplings.

Except for the introduction of the crosscut saw and the gradual exhaustion of softwood timber which could be driven down the Hudson, logging methods in the upper watershed of that river changed little between 1850 and 1915. Since then, a great transformation has set in. The tractor and the motor truck have encroached on the functions of the horse, the railroad and the river in the removal of logs. The last large drive of thirteen-foot softwood logs down the Hudson was made in 1922, and the last of all are said to have been driven by the Union Bag and Paper Company in 1924. By that time the driving of sawmill timber down the Hudson had ceased, and some pulpwood logs were being bucked into four-foot lengths, as had been done in certain other parts of the Adirondacks since the late 1890's. The mingling of the two lengths was dangerous, for men working on jams of thirteen-foot logs found treacherous footing if they had to get back to shore or to their boats across four-foot logs. From this conflict the far more manageable four-foot log emerged victorious. The first large drive of four-foot logs down the Hudson took place in 1929. It was conducted by Finch, Pruyn and Company, which since that year has been the only firm to drive the river. With the short logs, a jam, as has been said, is no longer serious. It becomes a material obstacle only when ice forms around it.

Logs thirteen feet four inches long were driven down the Moose River by the Gould Paper Company of Lyons Falls up to and including the spring of 1948. The company no longer drives logs but still bucks them into that length. James E. Davis, the company's woodlands manager, writes that this standard, so far as he knows, has no connection with the traditional thirteen-foot Hudson River standard. Its origin is that the company's grinders,



DRAWING LOGS — THE OLD WAY

The driver is telling his team to get going. At the left, a modern note: the mechanical loader that has transferred the logs from the skidway in the background to the sled. Eagle Nest Park, 1951.



SKIDDING — THE NEW WAY

Tractor driven by Joseph Bird. The useful movable scoop in front can shift logs and pile them on skidways. Eagle Nest Park, 1951.

made in 1904, take thirty-two inch long sticks, five of which equal thirteen feet four inches. Mr. Davis adds that his men prefer a long log operation and that the handling costs are less.

Finch, Pruyn and Company ceased driving four-foot logs down the Hudson in 1950, except for a pickup operation the following year. Since then their timber, like that of other operators, has been hauled by motor truck from the forest direct to the mill. In some places the horse is still used for skidding and sledding and men still roll the logs up the skidway, but usually a mechanical loader mounted on a tractor transfers the logs from the skidway to the truck.



HAULING LOGS, 1949

DRIVE OF FOUR-FOOT LOGS, PERIOD 1933-1938

Reproduced by courtesy of Finch, Pruyn and Company, Inc.

Much softwood is still peeled in the forest. Reversing the ancient Adirondack tradition that delayed cutting until autumn, the logger, as already mentioned, must fell these trees during the warm weather, for they peel readily only while the sap is running. The unwritten rule is that trees to be peeled must be cut before the August full moon. Hardwoods are still cut in autumn by lumbermen who must await frozen ground to get their tractors or teams into the woods and their logs out; for hardwood logs mold and begin to decay if left in the woods during the summer. Finch, Pruyn and Company and a few other firms owning large tracts divided into sections which they lumber in rotation can afford to build truck roads passable the year round and can thus cut hardwoods, too, in warm weather.

Logs shipped by truck are usually bucked into lengths of eight, ten, twelve, fourteen or sixteen feet. The most radical recent change in logging methods has been the introduction, during the early 1940's, of the motor-driven chain saw for felling and bucking trees.

Whereas the logging was formerly done by many individual operators, most of it is now concentrated in the hands of a few large companies whose facilities enable them to experiment in new mechanical methods and to take full advantage of those which are found practical. In reply to my inquiry of Finch, Pruyn and Company on this subject, Mr. Beeman wrote me as follows, under date of June 17, 1949:



MECHANICAL LOG LOADER, KNOWN
AS GASOLINE LOADER



ONE-MAN GASOLINE CHAIN SAW
Driven by Joe Potter of Blue Mountain Lake, 1950.



SPRING DRIVE, MOOSE RIVER

Reproduced by courtesy of the photographer, Dante Tranquille, and of the *Utica Observer-Dispatch*.



SKIDWAY, WHITNEY PARK, 1949

In contrast to former practice, the modern skidway may rest below the level of the road, for the logs are mechanically transferred to truck or sled.



JAM OF THIRTEEN-FOOT FOUR-INCH LOGS, MOOSE RIVER, 1948

Reproduced by courtesy of the photographer, James Fynmore, Jr., and of the Gould Paper Company.

Our newer mechanization in the woods revolves around the idea of picking up logs or full length trees with a hook and chain and transporting the trees to a road or header, either by carrying through the air on a cable or dragging on the ground with a cable.

The use of ground lines is fairly well understood throughout this part of the country. The cable is either of considerable length, pulled in by a winch, or a shorter cable pulled in to a high wheeled, heavy duty sulky. The log or logs are dragged by a tractor pulling the sulky to a road or header.

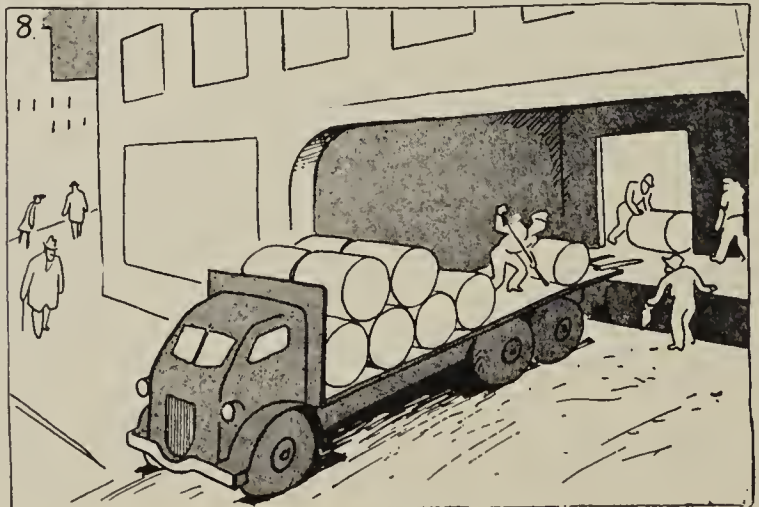
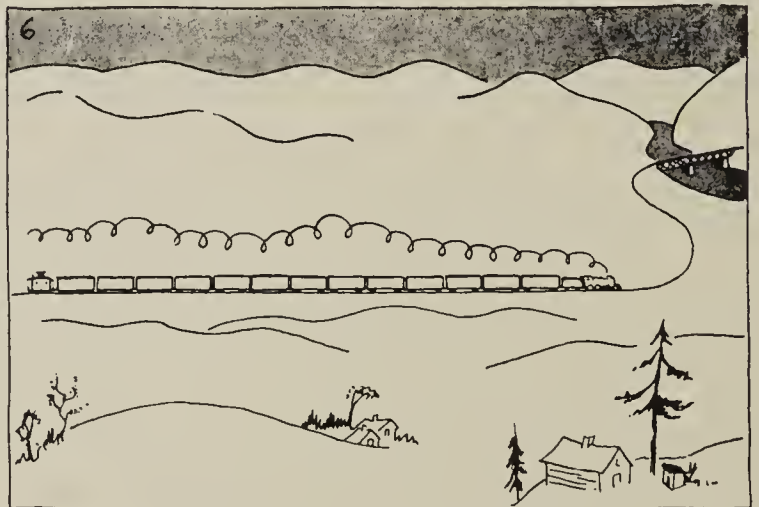
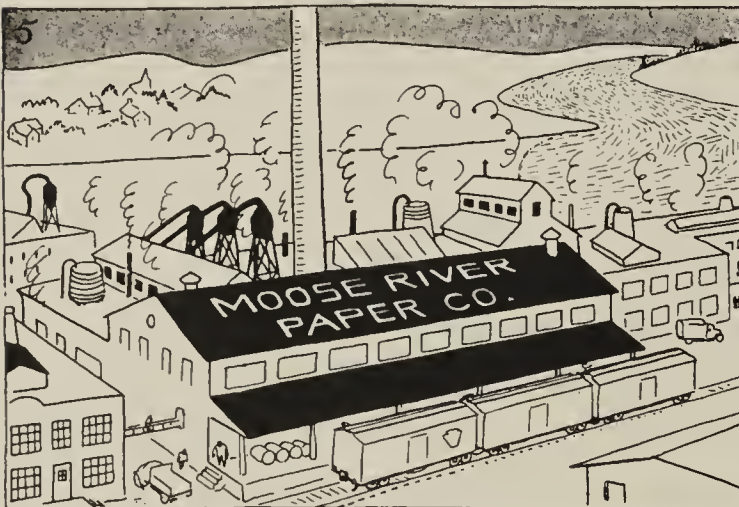
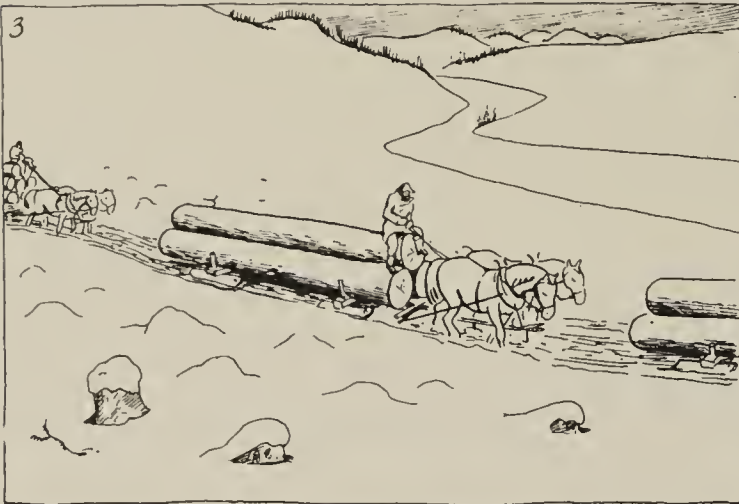
He went on to say that the overhead cable systems so highly developed on the West Coast are not suitable for the light stands of timber in the East, but that his company is experimenting with a modification of the high line method now developed in the Swiss Alps.

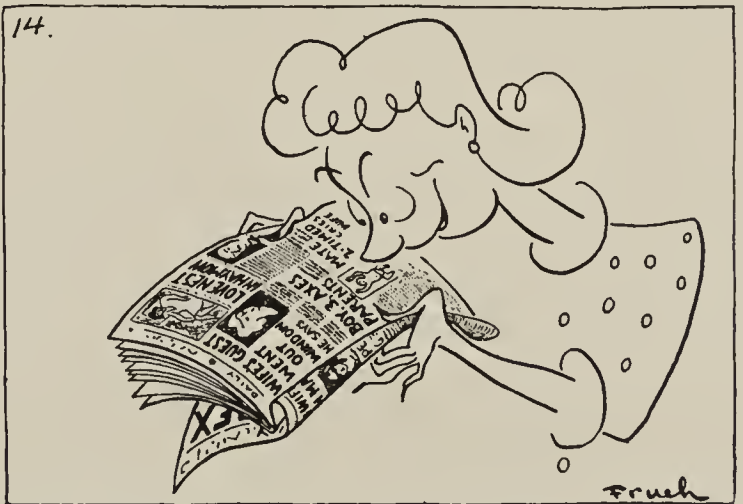
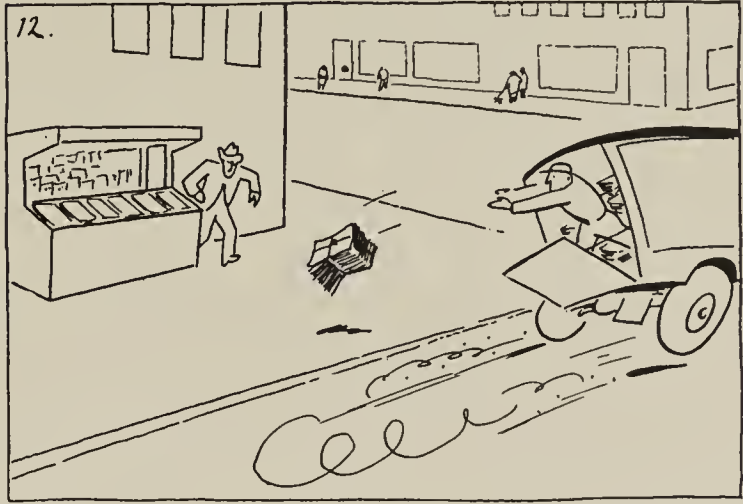
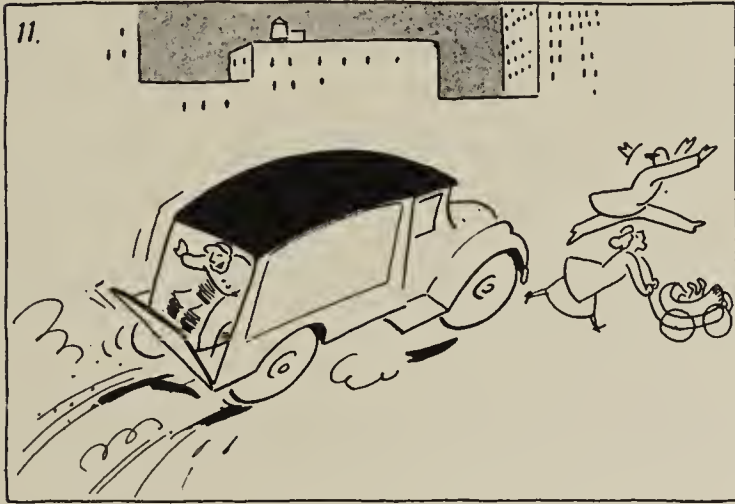
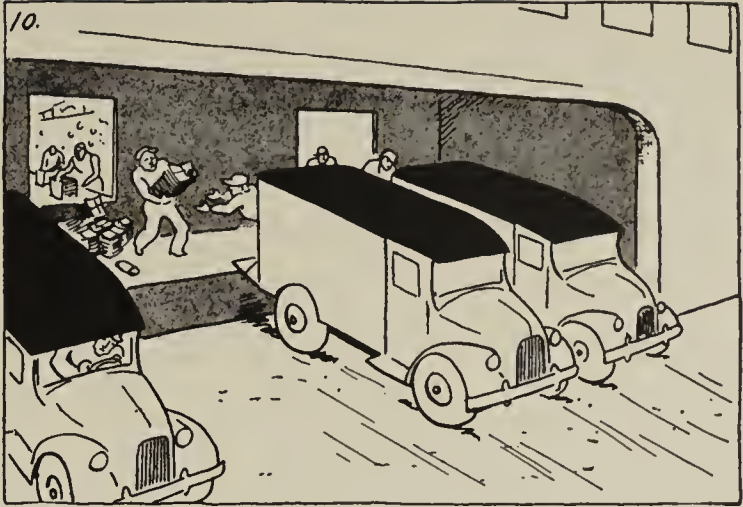
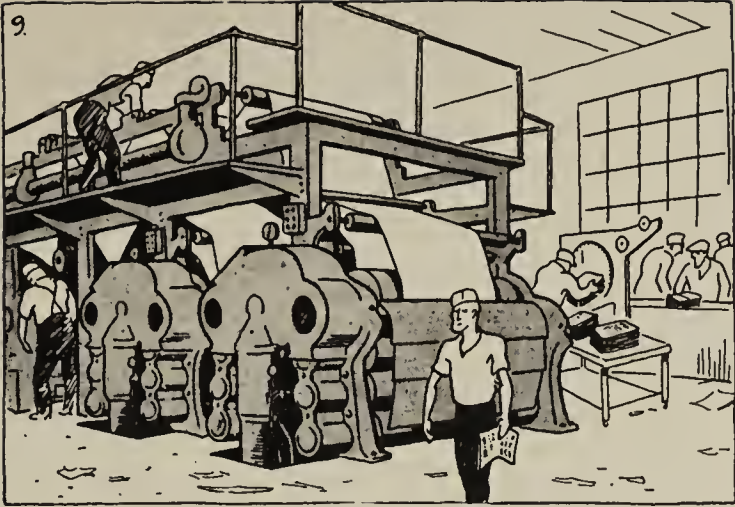
Adirondack lumbering has lost its isolation, its rigors, its dangers and its aura of romance. The lumberjack has gained in health, in safety of life and limb and in steady employment. He has become respectable and commonplace.

During the new era the crashing of trees felled by man has rarely been heard in Township 34. Since 1906 five-sixths of the township's area has been part of the state's inviolable forest preserve. The only logging of any consequence since then has been done during the past ten years by C. J. Strife, of Old Forge, on privately owned lands near the Eckford lakes. But the hills sloping down to the lakes echo through day and night the rumble of pulpers — as the trucks bearing the towering loads of pulpwood are called — bound down Route 28 from northern townships for the mills in the south.

Township 34 may justly lay sisterly claim to a folk song, "The Rackets Round Blue Mountain Lake," which commemorates the doings of lumberjacks and log drivers just across the line in Township 19. In the latter lie Blue Mountain itself and 34 Flow, the start of Ordway's Rock River drive. The song probably dates from the 1870's. Several versions have been current, but most of them have become corrupted, for although they refer to Blue Mountain Lake they mention the names of men unknown in that village. What is probably the authentic song is quoted at the end of this chapter; it appeared in *The Hudson* (copyright, 1939, by Carl Carmer; reprinted by permission of Holt, Rinehart and Winston, Inc., publishers). It is practically identical with a popular phonograph record of the ballad as sung during recent years over the radio. Will and Shang (Dennis) Sullivan, the brothers mentioned in the second stanza, served as members of the crews of W. W. Durant's steamboats during the 1880's. Will later managed various small hotels in the central Adirondacks. Jimmy Lou, not remembered by any other name, was a tough woodsman from Minerva. Dandy Pat was Patrick Moynehan, then a young lumberjack, who rose to wealth and power. The boss was George Griffin, who worked for Ordway, among others. Bill Mitchell was a well-known Blue Mountain laker. The incomparable Nellie was Ella Plumley, who married her fellow villager, Walter Hanmer. They later moved to far-off Wyoming but after several years returned to spend the rest of their days at Long Lake.

The record version of the song is the same as Carmer's, except that the order of the





Drawing by Frueh;
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stanzas is changed, and one Thompson is named as boss instead of Griffin. Carmer heard the song from “Yankee John” Galusha. “Happened over at Blue Mountain Lake near Eagle’s Nest and Towahloondah,” he explained to Carmer, “after we’d cut the sides of Big and Little Pisgah mountains. All that stuff come down the Hudson. It’s the same tune as some o’ the lakers used to sing called ‘Red Iron Ore’ but I tell ’em we was cuttin’ trees and singin’ it here long before they heard o’ iron dust near the big lakes.” Towahloondah was the Indian name of Blue Mountain, and the Pisgahs are ten miles to the east. This is the song, as Galusha sang it to Carmer:

Come all ye good fellows wherever you be
Come set down a while and listen to me
The truth I will tell you without a mistake
’Bout the rackets we have round Blue Mountain Lake
Derry down, down, down, derry down.

There’s the Sullivan brothers and Big Jimmy Lou
Oh and Mose Gilbert and Dandy Pat too
A lot of good fellows as ever was seen
They all work for Griffin on Township Nineteen
Derry down, down, down, derry down.

Bill Mitchell you know he kept our shantee
As mean a damn man as ye ever did see
He’d lay round the shanty from morning ’til night
If a man said a word he was ready to fight
Derry down, down, down, derry down.

One morn before daylight Jim Lou he got mad
Knocked hell out of Mitchell and the boys was all glad
His wife she stood there and the truth I will tell
She was tickled to death to see Mitchell catch hell
Derry down, down, down, derry down.

You can talk of your fashions and styles to be seen
But there’s none can compare with the cook of Nineteen
She’s short, thick, and stout without any mistake
And the boys call her Nellie, the belle of Long Lake
Derry down, down, down, derry down.

And now my good fellows adieu to you all
For Christmas is comin’ I’m goin’ to Glens Falls
And when I get there I’ll go on a spree
For you know when I’ve money the devil’s in me
Derry down, down, down, derry down.



BANKING GROUND, FOUR-FOOT LOGS, PERIOD
1933-1938

Reproduced by courtesy of Finch, Pruyn and Company, Inc.

APPENDIX A

NINETEENTH CENTURY LOGGING PRACTICES

Of the practices herein described some were special to the neighborhood and others general in extent; some are now obsolete, whereas others are familiar to the present-day lumberman.

Cutting and Peeling

During the first four decades of lumbering in Township 34, only the ax was used in cutting. The tree was first notched by the chopper, waist high, on that sector of the trunk which faced the direction in which it was planned to "fall" the tree, as the phrase went. The direction, carefully chosen, was one in which the tree would fall clear so that its top branches would not catch and rest on other trees, for that would make the cutting of the latter difficult and dangerous. This was the prime reason for notching. The other was that, unless notched, the falling tree would splinter several feet up its trunk from the cut, thus damaging the timber.

The accuracy of the notching was tested by laying the blade of the ax on the horizontal bottom of the notch, with the top of the ax against the inside of the cut. If the helve then pointed in the direction in which the tree was intended to fall, the chopper was satisfied and began to chop through the trunk from a point diametrically opposite the notch.

A tree which had grown at a slant required a variation in method. If a tree leaned, say, north, it could be made to fall east or west but not south. To make the tree fall west, it was notched on the western edge of its trunk. The chopper then hacked at the eastern edge, but slightly towards the north, so that, until the moment of falling, the southern sector of the trunk might remain intact to counteract the tree's slant to the north and draw it to fall west. A pencil or any cylindrical object tilted to represent the slanting tree will make this explanation clearer than it sounds.

The felling was barely the beginning of the axman's work, for the tree then had to be chopped into thirteen-foot logs, as will be explained in the next section of this appendix. An average of seventy logs a day for a month was considered good for a chopper. A very few axmen could average eighty logs, but only if they were favored by good weather during the month. Occasionally a stunt performer attained a rate of 100 to 110 logs, but after a day or two of this he usually collapsed and had to lay off for a while.

About 1891 the crosscut saw was introduced into the neighborhood of Township 34 by two men remembered as "foreigners," probably Germans or Swedes. They had come from the area west of Lake Michigan and had gone to work for a lumberman named Frank Stanley, who was cutting on Kunjamuk Mountain near Indian Lake. Their innovation aroused intense curiosity throughout the region. The two easily sawed 160 logs a day between them and exceeded the rate often enough to maintain it as a minimum monthly

average even if interrupted by a few days of heavy rain. After this demonstration, the use of the crosscut saw became general in the neighborhood. The tree was still notched with an ax, but the saw was used to cut through the trunk. Whereas trees had been chopped waist high, they were now sawed at a height of 12 to 18 inches above the ground. To facilitate the work of the sawyers, after the saw had penetrated far enough into the trunk a wedge was driven into the cut, behind the saw, to prop the weight of the tree in the direction in which it was to fall and to keep the weight of the trunk from binding the saw. Wedges made of hardwood were used in the sawing of softwood trees. In later years, when hardwood trees were cut, iron wedges were used.

When the lumbermen of the central Adirondacks began to fell hemlock solely for lumber and had to strip the bark to make the logs float better, as related, they followed the same method of peeling as had been in vogue long before in the lowlands, where the hemlock had been cut for its bark only. Before the hemlock was felled, the bark was split with an ax from the bottom of the trunk to a point about four feet up the tree and peeled while the tree was still standing, to make chopping easier. There were three men in a hemlock crew. First of these was the chopper. Next came the fixer, who, after the tree had fallen, chopped a line straight down the length of the tree, rolled it over and chopped another line down the opposite side of its circumference. He also girdled the tree with his ax at intervals of four feet. Last came the spudder, so-called from his tool, the spud, an iron wedge about two feet long, sometimes curved at the sharp end. With this he pried the bark loose, working from the slits chopped by the fixer.

Nowadays some mills accept unpeeled logs. For those that prefer to receive them peeled, the peeling is still done in the forest by the method described.

Skidding

In Ordway's time, autumn was also the season for cutting the roads for the sleds that were to draw the logs out. These roads were not made passable for wagons. Therefore, while the lumberjacks were cutting and the roads were still bare of snow and ice, food and supplies were carried in to the camps over these roads on rough sleds known as jumpers. They traveled over earth and stones, instead of on snow. The runners of the jumper were two young trees, chosen because they were naturally curved. The curved ends formed the prows of the sled. Parallel to and about ten inches above each runner, another small log was fastened to it with raves (vertical side pieces). A crib, resting on the two upper logs, held the load.

Most of the ground was mountainous. On such ground there were three stages to the drawing of the logs: skidding, bobbing and the two-sled draw. Skidways, crude loading stands, were built at convenient places in each cutting area. The skidway was nearly always built on a slope, so that the sled which came alongside to load would be below the skids. The design of the skidway varied in detail according to the terrain and the load to be held. The



WOODSMEN'S IMPLEMENTS

The tool at the top is a froe, used to rive shingles. In the center is a spud (about 1910) and to the right another (about 1890).



THE AX AS DIRECTION FINDER

It has been laid against the cut to determine the direction of fall.



A NEW LOGGING DEVICE AT WORK WITH AN OLD ONE

A mechanical loader transferring logs from an old-fashioned mule sled to a pile for loading on trucks. Eagle Nest Park, 1951.



A JUMPER



SMALL SKIDWAY, SHOWING CRIBWORK



HAULING SPRUCE LOGS TO THE SKIDWAY,
WHITNEY PARK, ADIRONDACKS, 1901

Photograph by U. S. Forest Service (taken by E. F. Keller)

most common type consisted of a single pair of skids, two long logs laid parallel to each other, eight or nine feet apart. As the skids had to be laid horizontally, or nearly so, they were supported, as the slope descended under them, by an underlying cribwork of short logs (generally thirteen-foot logs, a size conveniently available, as will be explained) which was extended in depth according to the grade of the slope. If the grade was very slight, the skids could rest entirely on the ground without requiring a cribwork. Another type of skidway, built to extend over a long slope, consisted of successive pairs of skids, resembling a flight of steps. The first pair were two short logs laid at the top of the slope with their far ends, protruding out over the slope, supported by a short log at right angles. This, in turn, rested on the ends of another pair of skids whose far ends rested on another cross log, and the skidway was extended thus down the slope until it reached the road. At the road end of the skidway the last pair of skids were notched, and a log, sometimes reinforced by chocks, was laid across these notches to hold in place the logs to be loaded.

After the tree had been felled it was drawn to the upper end of the nearest skidway by a team of oxen or a horse, harnessed to a whiffletree dragging a chain to which was attached a grab-hook or tongs. The hook was driven into the log near one end. This drawing of the log to the skidway was called skidding.

At the skidway a pair of lumberjacks, one man on each side, jacked the log up onto the skids. In the 1850's and 1860's the men used so-called barefoot levers for the jacking. The barefoot lever was a pole of hickory or ash, about six feet long and three inches in diameter, with one end flattened into a wedge. About 1870 the barefoot lever was replaced by the pike lever, a pole of about the same size, with one end fitted into a spiked iron socket. Later in the 1870's the pike lever gave way to a cant-hook, of similar dimensions, on which a movable iron hook was stapled loosely to the iron socket. In the 1880's, the cant-hook was largely replaced by the Michigan type of peavey, which is still in use. This peavey is about four feet long. Like the pike lever and the cant-hook, it is capped by an iron spike. To the socket of this spike is attached a hook, bolted to the socket in such fashion that it can swing from the socket only in a groove.

Once the log had been jacked on to the skids, the lumberjacks rolled it over the skidway by hand. As the pile of logs on the skidway grew, a pair of slender logs, easy to handle, were propped against the pile, one at each side, about two feet inside the edge, to act as a track or ramp up which the logs still to come could be rolled to the top of the pile. This process continued until all the felled timber tributary to a particular skidway had been piled on it.

The pile of logs then waited until enough snow had fallen for the bobsled, which will be described, to reach the skidway. The skidding, begun in autumn, was completed if possible before heavy snowfall so that horses and men might then be diverted to sledding.

Throughout the Adirondacks, by an immemorial custom peculiar to these forests, all

felled trees were chopped or bucked (bucking is the trade term for sawing logs) into thirteen-foot lengths measured by a pole. In the late 1890's some pulpwood operators began bucking logs into four-foot lengths, but in most Adirondack areas the thirteen-foot length remained standard until the 1920's. The variable dimension, the diameter, was measured, or scaled (as the phrase went), by taking the diameter inside the bark at the top, or smaller end. The measurement at the skidway gave the operator an inventory of what he had cut. Unlike Ordway, who hired his own men, some operators let the cutting and skidding to local



A PAIR OF WHIFFLETREES, USED WITH A TEAM OF HORSES TO SKID LOGS

The two pieces on the end are whiffletrees; the large piece in the center is called an evener or a doubletree.



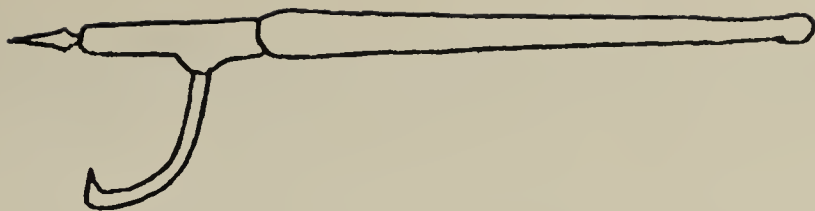
A PAIR OF SKIDDING TONGS

Sometimes fastened to the whiffletrees by three iron links and a swivel so that the log could roll without interfering with the whiffletrees and the traces. Peavies lying to left of tongs.

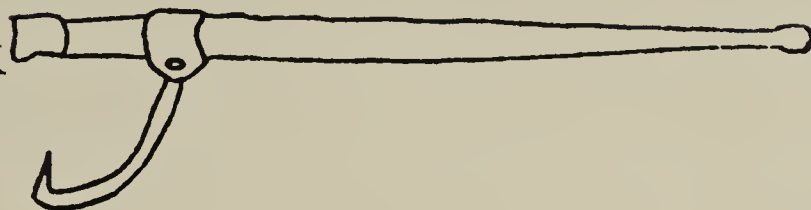


PEAVEY, HOOK UP

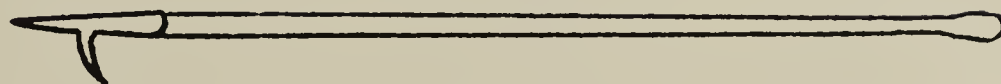
PEAVY



CANT HOOK



PIKE POLE



PILING LOGS ON A SKIDWAY

From the New York State Forest, Fish and Game Commission's *Annual Report* for 1897.



SKIDWAY OF SPRUCE LOGS

Showing also the method of scaling, Adirondacks, 1901. Photograph by U. S. Forest Service (taken by E. F. Keller).

jobbers. This practice came to be general towards the end of the era under review, when the lumbering rights had passed almost entirely to large companies, such as the Union Bag and Paper Company, which in 1906 completed the last large lumbering of softwoods in Township 34. In such instances the measurement at the skidway served as basis of settlement between the company and the jobber.

In Township 34, the standard unit was a log thirteen feet long and nineteen inches in diameter at the top (the butt diameter, specified in some parts of the Adirondacks at twenty-two inches, was ignored). Such a log was called a standard or market log or, briefly, a "market." The value of a log of greater or lesser diameter was computed by the arbitrary formula of dividing the square of its diameter by 361, the square of nineteen, the market log's diameter. For instance, a ten-inch log would fetch $\frac{100}{361}$ of the price of a market log, and a thirty-eight-inch log would bring $\frac{1,444}{361}$ or four times the price of a market. Five markets were held equal to 1,000 feet board measure.

After being measured, each log on the skidway was marked by a hammer with the numerals or other insignia which were its owner's trade mark, so that it might be identified by the mill upon its arrival at Glens Falls. All Jones Ordway's logs bore the numerals 34.

Bobbing

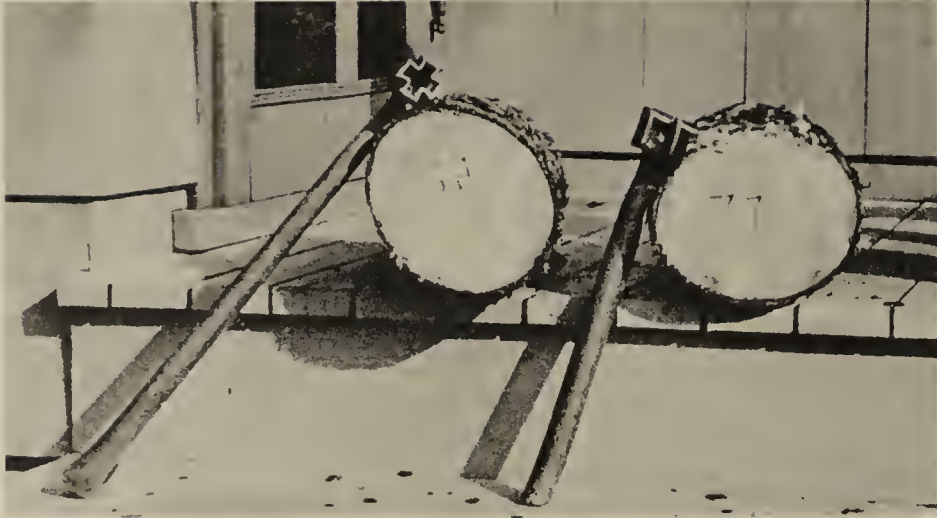
Both the structure and the name of the bobsled were derived from the Algonquin Indians of the North Atlantic seaboard and survived in several different forms, according to the locality and the particular Algonquin tribe which had lived there. The full name has come down as *tarbognay*, *tebobbin*, *chebobbin*, *tarboggin* and *toboggan*.

The type of bobsled used in Township 34 after about 1890 was known locally as the muley-sled. It had two iron-shod runners, connected at their front ends by an iron bar called a roll-rod and across their middles by a heavy wooden beam, whose ends lay in grooves cut across the runners, to which these ends were bolted instead of nailed. The bolting allowed for flexibility, so that on uneven roads one runner could rise above the level of the other. On top of this beam, also at right angles to the runners, lay another heavy wooden beam, bolted only through its center to the one underneath. This top beam was known as a bunk. It was studded with spikes to hold the load of logs in place. The distance between the runners of the sled, and, thus, the length of the connecting beam and of the bunk, was from ten to twelve feet.

The sled was drawn alongside the lower end of the skidway, with the bunk slightly below the level of the bottom of the pile of logs. As many logs as the team could haul were then rolled from the skidway on to the sled. Here, again, as the logs piled up on the sled, a pair of slender logs were propped against the pile as a track for the logs still to be rolled on to the load. To bridge the gap between the skidway and the sled pile for the lumberjacks who were rolling the logs, two planks were suspended between the skidway and the sled pile, one on each side of the track, so that the men could walk up the planks as they rolled the logs up the track. The load complete, the logs were fastened together in a bundle by a long, heavy chain. The chain was finally tightened by a binder, a small log two or three inches in diameter. One end of the binder was inserted under the chain; the other end was grasped and turned as a lever to twist the chain taut. The tautness was then made secure by fastening the far end of the binder log by a small chain to the large holding chain. The team was then ready to start downhill with its load. The front end of the chained bundle of logs rested on the bunk of the sled; the other trailed in the snow. The bunk could swing horizontally on its pivoted center, which made it easier for the sled to draw the logs around curves in the road.

This method of drawing logs was called *bobbing*. The purpose was to let the trailing logs brake the sled on the descent. On the steepest grades a second bundle of logs, lying entirely in the snow, was sometimes chained to the trailing end of the first bundle to act as an extra brake.

Before the muley-sled came into use, a so-called stiff-kneed sled had been employed. In substructure it resembled the jumper, but it was larger and heavier, had iron-shod runners and carried no crib. As in the case of the jumper, each runner supported, by means of raves, another log at a height of about a foot. The upper logs were fastened to each other in the



HAMMERS USED TO BRAND LOGS

The cross was the Union Bag
and Paper Company's brand.



A CHEBOBBIN

From *Home Life in Colonial Days* by Alice Morse Earle, copyright 1898 by The Macmillan Company,
1926 by Mary Earle Moore. Used with the permission of The Macmillan Company.



A TRACTOR-DRAWN MULEY-SLED, 1949

The bunks are studded to hold the logs in place.



LOG SLED AT END OF LOADING

same fashion as the runners of the muley-sled and likewise carried a bunk on which one end of the log bundle rested. The length of the bunk and of its supporting beam was only six to seven feet. When the muley-sled came into use, it was hailed as an important improvement for its larger capacity, its simpler and sturdier construction and the greater flexibility of its runners on uneven roads.

The Two-Sled Draw

The bob roads built uphill to the skidways extended like the branches of a tree from a main logging road which had been cut along the valley, and it was to this main road that the bobsleds descended. Generally, two or more bob roads joined the main road at the same point. At each such junction at least one large skidway had been erected. If at such a point there was a group of large skidways, whether of two or more, it was called a double-header. The bobsled discharged its load at the upper end of the large skidway, the bundle was unchained and the logs were rolled on to the skidway. From this large skidway the logs were loaded on a double sled, known locally as a two-sled, consisting of two bobsleds hitched to each other by a wooden tongue or by a pair of diagonally crossed chains. Some of the large skidways were 200 to 300 feet long, capable of holding thirty to forty two-sled loads.



STIFF-KNEED TWO-SLED IN USE PRIOR TO 1890's

This sled happens to be carrying a crib, but the same sled, without the crib, was used to haul logs.

Piled on the two-sled, the logs were again chained together and tightened with the aid of a binder. One end of the bundle rested on the forward sled, the other on the rear sled. The bunk of the latter, only, was spiked. The two-sled then started for the banking ground, where the logs would await the thaw and the spring floods. The two-sled roads led downhill for considerable stretches and, although the grades were gentler than on the bob roads, braking was necessary in places. For this, there was a choice of at least four methods, depending on the terrain and on snow and ice conditions. One method was to wind chains around the runners of the sleds. A second was to clamp under each runner a u-shaped piece of iron, bolted across the top of the runner. The iron piece was removed after the sled had reached the bottom of the grade. The third method was called warping. One end of a long heavy rope was fastened to the bundle of logs. The rope was then wound two or three times around a tree at the top of the grade, and the loose end was taken in hand by a lumberjack who, using the tree as a snubbing post, could brake the descent of the sled. The fourth method of braking was known as "guarding." This consisted of strewing earth or swamp hay along the ruts in which the runners of the sled were to travel. Guarding with earth sometimes produced so much friction and so heated the iron-shod runners that they would no longer slide. The driver then had to halt his team until the shoes had cooled.

On a large lumbering operation there were two parallel two-sled roads. The second, called a go-back road, was used by the empty sleds returning to the skidways, so that the down traffic would not be impeded. If the terrain did not permit of a second road, so-called turn-out places were provided.



"GUARDING"

The straw in the ruts brakes the descent.

Photograph by the New York State Forest, Fish and Game Commission (by A. Knechtel).

At the start of the logging season and after every heavy snowfall, the roads were broken out by a snow-plow or by shoveling. A lightly loaded sled was sent ahead to make a track for the pay loads.

In the earliest years, while the lower slopes could supply all the timber wanted, the draft animals were almost exclusively oxen. Each half of the ox's cloven hoof had to be separately shod. Later, when the lumbermen reached the higher slopes, they found that the oxen slipped and slid, unable to hold the heavily loaded sleds. The change to horses began in the 1860's, although oxen were used until the early years of this century for skidding the single logs and for breaking the roads for horse-drawn sleds. They were also employed in preference to horses in marshy valleys. The first horses used were small, of the western type, but, as they often had to run downhill with their loads, with consequent casualties, the operators soon turned to larger horses which could help to brake the sleds on the descent. On skidding, oxen worked in teams and horses singly. On sledding, horses, like oxen, were teamed.

The record two-sled draw for Township 34 is said to have been made by Ted Hall of Indian Lake about 1906 when he drove his team of horses from Balsam Lodge to 34 Flow with 101 logs in one load. Such a record haul was known as a champion load.

The lumberjacks were on the job from twelve to fifteen hours a day. Their working hours did not diminish as the days grew shorter. In November or December, as soon as enough snow had fallen to provide a base for the sleds, the cutting and skidding ceased, and the operator concentrated his forces on loading, bobbing and drawing the logs to the banking



A LOAD OF LOGS ARRIVING AT THE BANKING GROUND AT 34 FLOW, WINTER OF 1900
Left: Mike Lyden. Right: Robert G. Hanna. The sleds are muley-sleds.

ground, lest an unseasonable spell of warm weather interrupt the sledding. During the winter season the men employed on these tasks began work at one or two o'clock in the morning by the light of kerosene torches, which could be hung in the snow-covered woods without danger. The torch, which carried no chimney, had a double wick and a tank which held one quart of kerosene. It swung by an iron bracket from the end of a wooden pole, six to eight feet long, planted in the snow at an angle.

In the 1890's the sprinkler wagon came into use for smoothing the way for the two-sleds where the roads ran along level ground. The sprinkler wagon, belying its name, was not a wagon but a sled, which traveled behind the road-breaking sled and ahead of the pay loads. It carried a rectangular water tank that held from thirty to sixty barrels of water. At the back of the tank just above its bottom were two vents stopped with wooden plugs. When the plugs were pulled, the vents, to which small iron troughs were attached, sprinkled water to ice the ruts for the log-laden sleds to follow. One tank-load of water could ice between one-quarter and three-quarters of a mile of road. The tanks were filled by gravity from brooks, or by pumping, or from a barrel that was pulled up over a track to the tank, with the traction furnished by a horse. Sometimes a stove was installed under the tank to keep the water from freezing around the edges. A few sprinkler wagons are still used in Adirondack areas remote from motor highways and railroads.



SPRINKLER WAGON NEAR NEWCOMB

Photographed by courtesy of Finch, Pruyn and Company, Inc.

The sprinkler wagon was trailed by a man known as a road monkey, whose job it was to level any place in the road where one side was so much higher than the other that a sled piled with logs might tip over. He walked between the iced ruts, carrying an ax slung over his shoulder with its helve passed through the handle of a shovel.

In some sections of the Adirondacks logs were towed, floated or drawn by a winch and rope across lakes on their way to the streams or rivers down which they were to be driven. In Township 34, according to the old-timers, lake transport was used only once, and that was in 1906, when the Union Bag and Paper Company floated logs from Utowana Lake to the head of Blue Mountain Lake with the aid of the prevailing west wind. Each lot of logs was enclosed in a floating boom, built as described.

Glossary of Logging Terms

Several logging expressions used in the Adirondacks have been mentioned. Among others were the terms applied to the work of clearing paths through the brush for the horse to haul the logs to the skidway. Around Big Moose this was referred to as swamping, but in Township 34 it was called guttering, and the man who did it was the gutterman (it was also the gutterman's job to limb the trees felled by the choppers). In modern tractor skidding the driver is accompanied by a helper who slips the choker — a noose of steel cable — around the log and hooks the log to the tractor to be hauled out. This man is known as a whistle-punk, a word also used as verb. The origin of the "whistle" is that the earliest tractors were so noisy that the helper, working thirty or forty feet from the driver, had to blow a whistle to attract the latter's attention. The second part of the term is probably an amiable pervers-

sion of "punk" in the sense of gangster or of another of its slang meanings, an inexperienced fellow. The whistlepunk no longer carries a whistle but his title has stuck.

Taking off an hour at midday for lunch and rest was and, with Webster's sanction, is called nooning.

Mr. Ernest S. Nuspliger of the J. P. Lewis Co. of Beaver Falls, New York, has been good enough to compile for the Adirondack Museum the following glossary of terms used by the old-time loggers of Lewis County:

BEAR PAWS — Lumbermen's favorite type of snowshoes.

BIRLING MATCH — An aquatic sport or contest. Two opponents on same log, by rolling or birling it, try to make each other lose balance and fall into the water in which log is floating.

BOOMS — Tree-length logs with holes at each end with chains through them to make any length desired for containing floating logs.

BULL COOK — Assistant to cook.

CAMP — Total unit usually consisting of bunkhouse, mess camps, kitchen, blacksmith shop and horsebarn.

CHORE BOY — Does everything around camp and everyone else is his boss.

CIRCLE ELL — The J. P. Lewis Company brand mark.

CLEAN BIRLED — When one of the opponents plunges into the water.

CROGHANS — Shoes practically all handmade by three shoemakers in Croghan, New York (Jos. Bruet & Son, Peter Schinborn & Son, E. Monroe & Sons). These shoes were very popular to both lumbermen and log drivers in that they would hold steel calks under any condition. Were made from best of leather, were heavy and stiff. To be kicked by a "Frozen Croghan" was considered lethal.

CROW FOOT — Theo. B. Basselin brand mark.

CUT YOUR SACHEL STICK — Warning that you may be fired so have a stick ready to put through the handle of your satchel, so that you can carry it over your shoulder.

DECKING — Rolling logs on to piles, skidways or rollways.

DROP BOOM — A large and long log hinged at one end and across the stream against a boulder or rock at water level and raised with rope tackle blocks. Lowered to stop oncoming logs when there is a jam below. When the jam is broken, the boom is raised.

GLIM — Kerosene lamp. "Douse the glim" (Blow it out).

HIGH BANKER — A driver who avoids dangerous places and always manages to find work on a high bank or place not dangerous and usually one who shuns any kind of hard labor.

HIT THE TOTE ROAD — You are fired — get out.

JUNO — Two small logs with rope or wire around both at each end and a smaller log placed between and on top of rope or wire, an arrangement used for riding, as it will not roll when it is poled from one place to another in place of a boat.

LINE — Rope. Throw me a line or secure the boom with another line.

LOG STAMPERS — Men who stamp brand marks on each end of logs with a hammer which puts imprint into end of logs.

MEAT HOUSE — Wooden frame building and door completely covered with wire screen to keep out flies, etc. Building is in shade and keeps meat fairly well.

PIG YOKING — A method of returning a high and dry log to the river. Each of two men applies a peavey or cant-dog near the end of the log. With handle parallel to the ground, each lifts the log with the crook of one arm and the hand of the other until the log is dragged into the water and floating again.

RED SASH — Worn by some French Canadian river drivers of a type called "voyageur."

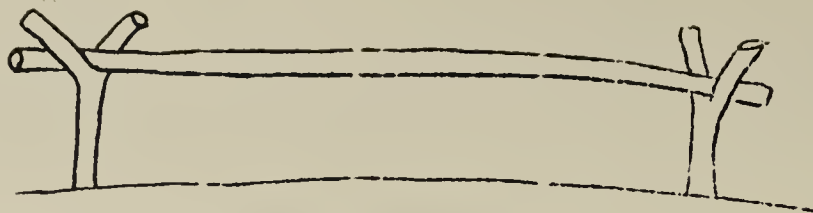
RIM KACKER — A record load in board feet of logs drawn from skidway to rollway or banking area with team of horses and sleighs.

ROOT HOUSE OR ROOT CELLAR — Generally a cut into the side of a hill. Rough wooden structure built in it and with a double door, all but door completely covered with about two feet of dirt. Keeps vegetables, etc., very well summer or winter.

SACKING OR PICKING THE REAR — Dislodging logs and floating them in log drive after main drive has passed.

SCALER — Measures board feet in logs on piles.

SLUICING LOGS — Poling logs from booms into log sluices which are wide chutes or troughs set into a dam below the crest so it will spill enough water to float the logs into sufficient water and current to float them away from the dam.



SNORTING POLE — Log drivers' type of rest room.

SORTING LOGS — Men on booms look at the stamp mark (similar to cattle brands) on ends of logs and with pike poles direct them into various pockets (booms) below (down stream).

STAGS — Regular trousers with legs cut and hemmed to come midway between knees and ankles, to avoid catching of calks in shoes and tripping.

STORE-BOUGHT — Not homemade.

STAR — St. Regis Paper Company brand mark.

SWAMPERS — Cut trails for skidder and horse.

TOTE ROAD — The road over which tote team traveled, usually shortest distance from camp to frontier home.

TOTE TEAM — Plus wagon or sleigh, it brought mail, food and supplies to camp.

TURKEY — Popular for carrying clothes. A feedbag with a small potato in each bottom corner so ropes will not slip off. Rope from each corner to and around puckered end of bag, forming loops to carry on back and leave both hands free.

VAN — Company store stocking tobacco, candy and some clothing.

WIDOW MAKER — A tree being cut down that lodged on or into another tree.

WOOL — Reference to either wool jacket or heavy wool shirt, i.e., cold today, better put on the wool.

APPENDIX B

THE DECLINE OF ADIRONDACK LOGGING

In 1892 Dr. W. Seward Webb's railroad from Herkimer to Malone cut a new path for lumbermen through the western Adirondacks. Its influence did not touch logging in the upper Hudson watershed, which was not tributary to the line. Most of the marketable softwood in that area had been swallowed by the mills at Glens Falls during past decades. The remnants continued to drift there down a river which collected no freight charges.

Statistics of the annual timber take of the Big Boom near Glens Falls are available from 1851 to 1904 inclusive. These figures, compiled by the Hudson River Boom Association, accurately reflect the volume of logging in the watershed of the upper Hudson. In 1872, the year of maximum output, 213,800,000 board feet were driven into the boom. By 1901 its receipts had dwindled to 52,145,800 feet. In 1902, 1903 and 1904 they were 70,241,800 feet, 56,951,400 feet and 54,177,800 feet, respectively. Although no subsequent figures are available, it is reported that during the next ten years logging of the watershed dwindled to negligible proportions because of exhaustion of supplies.

Both for the Adirondacks and for New York State as a whole, statistics of timber cut for commercial purposes are surprisingly fragmentary. The chart on page 68, prepared by Miss Linda H. Morley, presents the graphs of such summary figures as are available, together with a graph of the output of the state's sawmills. It will be seen that the timber cut of the entire Adirondacks was on a sharply rising trend from 1892 to 1905, while the output of a part of the region, the exhausted upper Hudson watershed, was declining. This was probably due in part to the ability of other sections of the Adirondack forest that had been cut less intensively to respond to the growing demand for pulpwood. Another factor was the new means of transport for softwoods from the western Adirondacks provided by Webb's railroad, later bought by the New York Central. The opening of that line was also reflected some years later in a rise in the hardwood cut, which had been negligible because the wood could not be moved by water. The Adirondack commercial timber drain reached its maximum in 1905, in board feet as follows:

														Board Feet
Softwood lumber														
Spruce	.	.	.	.	.	.	.	.	.	.	.	.	.	203,589,532
Hemlock	.	.	.	.	.	.	.	.	.	.	.	.	.	73,051,932
Pine	.	.	.	.	.	.	.	.	.	.	.	.	.	59,838,239
														<hr/>
Total	.	.	.	.	.	.	.	.	.	.	.	.	.	336,479,703

FOREST PRODUCTS OF THE ADIRONDACKS AND NEW YORK STATE



SOURCES

For "Logs received at Glens Falls 'Big boom' of Hudson River Boom Association" figures for 1851-1900 are taken from the New York (state) Fisheries, Game and Forests Commission's *Annual Report for 1899* and for 1901-04 are based on figures given in *History of the Lumber Industry in America*, by James E. Defenbaugh, 1906-07 (Chicago, American Lumberman).

For "Lumber sawed in New York State" (i.e., the product of sawmills, probably partly from timber not grown in New York State) the source is *Lumber Production in the United States 1799-1946*, compiled by H. B. Steer, 1948 (U. S. Dept. of Agriculture, Misc. publication No. 669). As only value is available before 1869, the quantities for 1849 and 1859 were computed on the basis of price per 1000 board feet given therein for those years.

Timber cut data were obtained from the annual reports of the New York (state) Forest Commission for 1891-1894 and its successors the New York

(state) Fisheries, Game and Forests Commission 1895-1899, the New York (state) Forest, Fish and Game Commission 1900-1909.10, and the New York (state) Conservation Department 1911-1921. However, the "New York State timber cut for wood pulp" trend line is extended by estimates for 1939 from *The Pulp and Paper Industries of New York State*, 1942 (Publication No. 2 of the New York (state) Division of Commerce); for 1944 from unpublished figures supplied by the U.S. Forest Service, Northeastern Forest Experiment Station, Upper Darby, Pennsylvania; and for 1947 from *The Wood-supply Situation in New York State*, by V. L. Harper and J. C. Rettie, 1949 (U.S. Forest Service, Northeastern Forest Experiment Station, Paper No. 29). These points are connected by a light broken line.

For "New York State rank among the states in Lumber manufactured" the U.S. Census is the source.

Hardwood lumber	78,817,818
Pulpwood	294,582,420
Roundwood (cooperage, excelsior, wood alcohol, etc.)	28,020,960
<hr/>	
Grand Total	737,900,901

The maximum cut of Adirondack hardwoods in any year prior to 1913, when statistics for the Adirondacks lapsed, was 101,073,013 board feet in 1908, but the softwood cut and the total Adirondack timber cut declined precipitously after 1905. The figures for the state as a whole, which cover the years from 1905 to 1920, show a similar decline beginning in 1908. As early as 1904, the state was obliged to import 40 per cent of its pulpwood from Canada. Since then the gap between the state's needs and its supplies has widened. The decline in New York's softwood output arose mainly from the failure of the lumbermen in earlier years to cut their forests selectively so as to insure a new crop within a reasonable period of time and from the locking up under the laws of 1885 and 1894 of approximately 2,000,000 acres of Adirondack timber lands in the Forest Preserve.

The graph of timber cut in the entire state for certain major uses, statistics of which were published from 1905 to 1920, suggests that Adirondack logging continued to diminish after 1912. The graph of New York's lumber production, i.e. the output of its sawmills, also clearly illustrates the devastating effects of the nineteenth century cutting spree. The output declined steadily from 1869 to 1904, rose during the next three years but sank to a new low point by 1910. When the prices of lumber and pulpwood skyrocketed in the wild but short-lived commodity boom of 1919-1920, the production of the state's forests could no longer be greatly expanded. By 1928 the lumber output had diminished to less than nine per cent of its 1869 level. A short upturn in 1929 was followed by another collapse.

The state's lumber industry began to revive in 1934, and the latest statistics show the production still growing. There is reason to believe that to a lesser degree the pulpwood output has increased during the same period, nourished by the new growth of softwoods which has been replacing some of the stands cut in the nineteenth century. The sharp rise in commercial and industrial activity during the middle 1930's was accompanied by mounting demands for lumber and pulpwood. In New York it stimulated, in particular, the logging of hardwoods, for it coincided with the exhaustion of stands of hardwood trees in the mid-western states. Because these had been larger and cheaper to handle, they had usually been able to undersell New York's hardwood timber in that state's markets. When midwestern supplies dwindled, prices rose to levels which made it profitable to cut New York's own hardwoods. The demand for them has been intensified by the building boom that followed World War II.

The only year since 1890 for which a comprehensive estimate of New York's live timber cut is available is 1944, and this estimate is the first of record to embrace all live trees cut from

TIMBER REMOVED FROM COMMERCIAL FORESTS OF NEW YORK BY CUTTING IN 1944
TIMBER CUT FOR COMMODITIES

ITEM	Total volume ¹			Saw-timber trees ²			Pole-timber trees ³		
	Total <i>M cu.ft.</i>	Softwood <i>M cu.ft.</i>	Hardwood <i>M cu.ft.</i>	Total <i>M bd.ft.</i>	Softwood <i>M bd.ft.</i>	Hardwood <i>M bd.ft.</i>	Total <i>Cords</i>	Softwood <i>Cords</i>	Hardwood <i>Cords</i>
Lumber	54,496	27,518	26,978	239,660	126,493	113,167	38,605 ⁴	28,450	10,155
Fuelwood	87,008	9,731	77,277	87,772	9,540	78,232	995,618	100,295	895,323
Pulpwood	29,854	26,030	3,824	101,641	92,625	9,016	121,224	96,224	25,000
Hewed ties	1,859	706	1,153	7,834	3,528	4,306	..	..	..
Fence posts	2,972	892	2,080	3,722	1,020	2,702	30,683	8,821	21,862
Veneer logs	4,140	..	4,140	17,802	..	17,802	..	..	..
Mine timbers	53	5	48	77	7	70	523	46	477
Cooperage stock	2,225	1,020	1,205	10,280	5,100	5,180	..	..	..
Shingles	12	12	..	60	60	..	..	..	..
Other	9,068	760	8,308	26,991	3,367	23,624	40,289	1,120	39,169
Total	191,687	66,674	125,013	495,839	241,740	254,099	1,226,942	234,956	991,986

¹ Includes saw-timber and pole-timber trees. The volumes in cubic feet include the tops (pole-timber and larger) of the softwood saw-timber trees, and the tops and limbs of hardwood saw-timber trees. Bark is not included.

² Includes only timber of saw-timber size. The volumes in board feet are equivalent to the lumber which could have been sawed from such trees.

³ Includes only the merchantable volume in cords of trees below saw-timber size, from saw-timber, pole-timber and other areas of commercial forest land. Bark included.

⁴ Consists of lumber cut from pole-timber size trees: Total 11,445, softwood 8,484, and hardwood 2,961 M bd. ft.

commercial forests for all uses. It is set forth in the table here shown, an extract of the United States Forest Service's reappraisal study for 1944, reproduced by permission of V. L. Harper, Director of the Service's Northeastern Forest Experiment Station at Upper Darby, Pennsylvania. He emphasizes that the figures are only rough estimates, preliminary to the results of the forest survey of the state now in progress. The total volume figures may be converted into board feet, the unit of statistics of earlier years, by applying to the totals of columns 2 and 3 the estimated factors of 1 board foot of softwoods equals 0.18 cubic feet and 1 board foot of hardwoods equals 0.16 cubic feet. Thus we arrive at a production in 1944 of 370,411,111 board feet of softwoods and 781,331,250 board feet of hardwoods, or the respectable grand total of 1,151,742,361 board feet. Approximately 47 percent of this, or 537,000,000 feet, however, was fuelwood for domestic and other purposes. Exact comparison with earlier years is impossible, because statistics of timber cut in those years do not include fuelwood. But the immense influence of the cutting of fuelwood on the depletion of the state's forests and the consequent decline in their output may be seen from the fact that the United States census for 1880 estimated New York State's consumption of fuelwood in 1879, for domestic purposes only, at 11,290,975 cords. As the estimate was based on consumer's figures, it probably included dead trees and tree tops. Nevertheless, by comparison with 1944, the 1879 figure is staggering. Taking 2.5 cords of hardwood as equal to 1,000 board feet, the 11,290,975 cords equal about 4,500,000,000 board feet (for softwoods the number of board feet would increase by about 5 percent). Adding to this the state's 1879 lumber output of 1,200,000,000 board feet, as shown by the chart, and assuming this, as well as the fuelwood, to have been cut in the state, we arrive at 5,700,000,000 board feet cut for lumber and fuelwood alone — five times the total estimated cut for all purposes in 1944.

APPENDIX C
ARTICLES OF AGREEMENT FOR DRIVING LOGS
ON THE HUDSON RIVER AND ITS TRIBUTARIES
MARCH 29, 1862

ARTICLES
OF
AGREEMENT
FOR
DRIVING LOGS
ON THE
HUDSON RIVER
AND ITS
TRIBUTARIES

Articles of Agreement

THIS AGREEMENT, made this twenty-ninth day of March, A. D. 1862, between all the persons whose names are hereto subscribed, witnesseth:

Whereas, the undersigned are engaged more or less in floating saw logs down the Hudson River and its tributaries, and it is desirable that an arrangement should be made whereby all the logs of all the subscribers should be driven from "Rist's Landing," on the Hudson River, and also from the outlet of Schroon Lake to "Little Bay" (so called) near the Big Boom which crosses the Hudson River between the town of Queensbury and the town of Moreau, together in a common enterprise and at an expense to such owners in proportion to the number of logs and distances driven, and whereas, also, it is impracticable to determine the actual number of logs which can and will be driven from the various lumbering stations and points to said Little Bay in each year.

Now, therefore, in consideration of the premises and of one dollar to each and every one in hand paid by each of the others, the receipt whereof is hereby acknowledged, all the terms, stipulations and provisions hereof are hereby consented to, covenanted for and agreed to and upon.

FIRST.—There shall be two drives, at least, Number
in the spring of each year and which shall be of Drives
known respectively as the "Hudson River
Drives," and the "Schroon River Drives." The
Hudson River Drives shall commence at the
place known as Rist's Landing and continue
down to Little Bay, unless the Schroon River
Drive reaches the mouth of the Schroon River
first. The Schroon River Drive shall commence
at the Bridge at the outlet of Schroon Lake and
continue down to the Hudson River and when it
reaches the Hudson River before the Hudson
River Drive reaches the mouth of the Schroon

River it shall continue down the Hudson River to Little Bay, And in each spring, unless it is certain that one of the above drives will have ample time to reach Little Bay the same spring a new drive shall be commenced ahead and start from the head of Big Falls early enough to drive through to Little Bay on the waters of the spring freshet. Such last mentioned drive shall be known as a Hudson River Drive and the same committee shall have control and charge of it as of the other Hudson River Drives.

Logs to
be driven
clean.

All the logs owned by or belonging to either of the parties hereto, and which shall have been rolled in, put upon the ice on the rivers, or afloat at or below said starting points of said drives shall be driven clean by said drives (except always when the Committee elect not to drive the logs of any one in default for not paying assessment).

Logs to
be put in
drive.

SECOND.—For the purpose of fixing the year in which the driving of said logs shall be paid for with reference to the winter when such logs shall be put in the river, creeks, on the ice or banks to be rolled in in the usual manner, all logs shall (for the purpose of this instrument) be deemed and considered to be driven within the times and in the proportions per year hereafter named, to wit:

Tariff on
Logs at
different
points.

Of all logs from the Hudson River or its tributaries above Rist's Landing, one-fourth part the first year and three-fourths the second year, except all such logs as shall be put in above and will naturally float past the Indian Lake Dam and Newcomb Dam, and those three-eighths part the second year, and five-eighths part the third year.

Of all logs to come out of North Creek, Mill or Factory Creek and the Sacandaga River, one half part the first year and the other half part the second year, except the following from said Sacandaga River, to wit: Such as shall come out of Lake Pleasant Branch and from the Sacandaga from above the mouth of Lake Pleasant Branch and all on Best River above Lot No. 10 of Ox Bow Tract and below the pisco Dam, and of which one-fourth part the first year and three-fourths the second year, and all logs from above Pisco Dam three-eighths part the second year, and five-eighths part the third year. Of all logs to come out of Stony Creek (in the town of Stony Creek) three-fourths part the first year, and one-fourth part the second year. Of all logs put in the Hudson River between the mouths of

the Schroon and Sacandaga Rivers, all the first year.

Of all logs to come out of Schroon River in the Drive therefrom, for the purpose of accounts and computations of the Schroon River Drive itself down to the Hudson River, all logs the first year, except such as are to come out of Trout Brook, Black Brook and West Branch of Sturdevant Mill Creek, and of those one-half part the first year and the other half the second year.

Tariff on
Schroon
River.

And as to either and both drives, for the purposes of accounts and computations of cost, expenses and assessments, below the mouth of the Schroon River, as follows, to wit: When the Schroon River Drive arrives at the mouth of Schroon River first, then all the logs of the Schroon River Drive and also three-fourths part of the logs of the Hudson River Drive the first year, and the other fourth part of the logs of the Hudson River Drive the second year; and when the Hudson River Drive reaches or arrives at the mouth of the Schroon River first **then** all the logs of the Hudson River Drive and one-fourth part of the logs of the Schroon River Drive the first year, and the other three-fourths part the second year. And for the purposes of accounts, computations of cost, expenses and assessments on all drives starting from and being made up at the head of Big Falls, all logs which by above provisions will be deemed to come below the mouth of Schroon River the same Spring or Autumn according as the Hudson River or Schroon River Drive above that point may reach the mouth of the Schroon River first and also on the logs deemed to come into Hudson River below the mouth of Schroon River as per above provisions and in case neither of said drives shall arrive at the mouth of Schroon River the same spring then all the logs in both Drives above the mouth of Schroon River and all deemed to come in below that point, always including those from the Scandaga in the number to be assessed and for which the owners shall pay on the theory and basis that such drive is for the benefit of logs thus included alike.

Driven
below
Schroon
River.

THIRD.—All rates, assessments and prices to be paid shall be fixed, ascertained and computed upon the logs deemed and considered driven by the foregoing provisions, on the basis following, to wit:

Rates on
Schroon
River.

For all logs in the Schroon River Drive from any point above "Tumble Head Falls" to the mouth of Schroon River, equally and alike per log and all logs from any point between said "Tumble Head Falls" and Richards' Mills, one-fourth of one cent less for each and every log and all logs from any point below said Richards' Mills to the mouth of the Schroon River, one-half of one cent less per log than from the starting point of said drive or above "Tumble Head Falls."

Rates on
Hudson
River.

For all logs in the Hudson River Drive, from any point or place above North Creek through to Little Bay equally and alike per log; all logs from North Creek or from any point below the same and above the mouth of Factory or Mill Creek to Little Bay, ninety-three per cent of the price paid from the starting point of said drive; for all logs from Mill or Factory Creek and all points below the same and above the mouth of Potter Creek, seventy-five per cent of the cost and price from above North Creek to Little Bay; for all logs from the mouth of Potter Creek and all points below the same and above the mouth of Schroon River, sixty-five per cent of the costs and price from above North Creek to Little Bay; for all logs from the mouth of the Schroon River to the mouth of the Sacandaga River equally and alike per log from whatever river and place the logs may have come, excepting always such logs as come from Stony Creek and such as shall be put into the river between the mouths of the Schroon and Sacandaga Rivers, and which excepted logs shall not be rated nor the owners thereof charged pay for driving the same till they reach the mouth of the Sacandaga River; for all logs from the mouth of the Sacandaga River down to what is known as "Flat Rock" situate near "New Bridge," the same price equally and alike per log; and for all logs from said Flat Rock to Little Bay the same price equally and alike per log.

Books to
be kept.

FOURTH.—A set of books shall be procured and kept by a clerk, in which books shall be entered fully all the statements of logs giving the time when got in and the starting places and quantities thereof whether given in by the respective parties, or fixed by said Committees in case of default by the parties to furnish such statements a full and accurate account of all expenses of every drive and of each drive distinct and separately between the different places as follows, to wit: From the starting point of

the Schroon River Drive to the mouth of the Schroon River, from Rist's Landing to the mouth of Schroon River, from thence to the mouth of the Sacandaga River, and from thence to Flat Rock, and from thence to Little Bay, and also all incidental and other expenses of the business, and such accounts shall show and give the items of all such expenses. Such books shall be open to the inspection of all parties hereto, as well as the statements of logs furnished by the owners or fixed by the said committees at all reasonable times.

FIFTH.—In making up the accounts to ascertain and determine the expenses of driving said logs and each of them and levying all assessments, all the expenses of driving the logs below said flat rock, shall be ascertained and averaged equally and alike per log, and from that point to the mouth of the Scandada River all the expense shall be ascertained and averaged in a like manner, and from that point to the mouth of Schroon River all the expense shall be ascertained and averaged in like manner, and the expense of driving the logs in each and every drive coming from above that point, from that point to Little Bay, after having been thus ascertained and computed by the log upon the said upper drives shall be added to the expenses of the respective drives above the mouth of the Schroon River, and thus make the total amount of expenses to be charged and assessed to the owners on all logs of such drives by a schedule of rates and prices according to the percentage from different points and places as hereinbefore provided.

Making up accounts and determining expenses.

There shall be a final liquidation and settlement of all accounts, so far as practicable, including the proportions to be paid by each and every person at least once in each and every year, and in case any person shall have overpaid his share of the moneys, such overpayment shall be refunded by the committee having received the same, and which committee shall have power to make an assessment therefor when necessary as well as for other purposes herein provided.

SIXTH.—There shall be a business meeting of the undersigned at this date and afterwards annually on the third Tuesday of March. In the year A. D. 1863, such meeting shall be held at the office of Morgan & Lapham in Glens Falls, N. Y., at one o'clock P. M. of the said day, and after that date such meetings shall be held at such hour of the day and at such place as each meeting shall fix for holding the next.

Annual meeting.

At such meetings, provided three or more persons, parties hereto, shall be present, those attending shall have power to do the business herein provided for, the same as though all were present and participated therein.

Who are
entitled
to vote.

In the transaction of all business at such meeting (and in giving directions and notices to the committees and as to all other business and matters pertaining to this agreement) each of the undersigned shall be entitled to have a voice and vote in proportion to the number of his logs to be driven the year ensuing such meeting (as per the provisions above) as follows, to wit: One vote for every thousand logs. The number of logs upon which any one claims a right to vote or act, to be stated by him and entered upon the books, and every person shall be deemed to have and shall pay for driving such number of logs as he shall thus give in and state as a basis for voting and doing business whether over-estimated or not, but no one shall be excused or released from paying for all logs he may have although he may not state the full amount. Those attending such meeting shall select by vote from the undersigned and appoint two distinct business committees, consisting of three persons each; one of which committee shall be elected exclusively by owners of logs belonging to the Schroon River Drive, and who in voting for such committee and also upon how much money to raise to start the Schroon River Drive, shall vote only on such logs as belong to the Schroon River Drive, and such committee so elected shall have charge and control of the Schroon River Drive and all business connected with it including assessments, collections, etc., below the mouth of Schroon River, when such drives arrive at the mouth of said Schroon River first, as well as above the mouth of said river.

Commit-
tees to be
appointed.

Commit-
tees for
driving
Schroon
River.

Committee
for driv-
ing the
Hudson
River.

The other of which committees shall be elected exclusively by owners of logs belonging to the Hudson River Drive, above the mouth of the Schroon River, and who in voting for such committee, and also upon how much money to raise to start the Hudson River Drive, shall vote only on such logs as belong to the Hudson River Drive and shall come from some point above the mouth of the Schroon River, and such Committee so elected shall have charge and control of the Hudson River Drive and all business connected with it, including assessments, collections, etc., below the mouth of the Schroon River when such drive arrives at the mouth of said

Schroon River first as well as above the mouth of said river.

Each of which said committees, as to the Powers drives in their charge and under their control, and shall have power to and are hereby authorized duties of and empowered to have general superintendence, Commit-tees. direction, management and control as to when and how much is necessary to assess to pay all expenses for driving logs and also all incidental expenses and charges, also of making such assessments, collections thereof, also of the drives, hiring and paying of men, and generally all other business whatever within the provisions and scope of this instrument, subject nevertheless to all the provisions herein contained, and also to the written request and direction of two-thirds of the owners of logs (in proportion to their logs as above provided) in the drives and business of which each committee has sole charge, duly signed and served; and except also that such committee shall not have power to stop any drive without such direction served in writing signed by log owners representing two-thirds the logs in such drive; but from and after the time either drive starts from the mouth of the Schroon River all owners of logs shall have a voice and representation reference to directions to the committee in charge thereof in proportion to the logs which such owners shall have to be driven that year in any drive, whether such logs are in the particular drive as to which directions are given or not.

Such meeting shall also decide upon how much money shall be raised at first to start the said drives respectively annually, and shall also choose a Clerk, and shall also have power to adjourn from time to time by two-thirds vote of those present.

SEVENTH.—Each of said committees and Committee said Clerk shall perform their duties and continue to act and be such committees and Clerk one year and until others are appointed. And such committees shall also continue and be such committees and perform the duties thereof after the appointment of their successors as to all assessments (and the collection thereof), made by them respectively and as to enforcing the collections of such assessments, either by enforcing the lien on logs or by action for a personal judgment or otherwise, such committees and the members thereof shall be liable and accountable for the faithful discharge of all duties and the application of all moneys collected or received by them to the purposes herein to be paid.

intended and each member thereof and said Clerk shall be entitled to receive for the performance of their duties respectively, including expenses, compensation at the following rates: Each of the committee for each and every day's time actually devoted to the duties herein assigned the sum of three dollars, and said Clerk for each and every day's time actually devoted to the duties assigned him the sum of dollars.

Indemnified for costs.

Said committees and each of the members thereof shall be indemnified and saved harmless of and from all costs, damages, expenses and demands by means or reason of any suit, action or proceeding to enforce the collection of any assessment not voluntarily paid. The amount of such indemnity, if any shall ever be paid, shall be rated on the same basis as the assessment sought to be enforced was.

Duties of Clerk.

EIGHTH.—It shall be the duty of such Clerk to attend all of said meetings and enter all the proceedings in full on the books; keep all the accounts, statements, records and enter the same, and assist the committees in making computations, estimates and assessments and to render them such other aid and assistance as they shall require.

Account to be rendered yearly.

NINTH.—On or before the first day of May in each and every year each of the undersigned shall render to such Clerk a full statement of all logs got in the prior winter, giving the number thereof and mark thereon of each kind of timber and the places where they were got in and the number got in at each place, the correctness of which statement shall be verified by oath of the owner or his agent or employee who has personal knowledge thereof from having been engaged in the business of getting in the same, and every person shall be assessed and charged for the logs thus given in, and every person shall be liable to pay for all the logs he may have even if left out of such statement by mistake or otherwise; and in case of any neglect to furnish such statement to the Clerk, the respective committees shall and they are hereby authorized to ascertain and fix the number of logs and the starting places therefor for which such delinquent or delinquents shall be assessed and pay, in the drive in their charge according to such information as they may have and their best judgment in the premises.

Said committees shall respectively levy, assess and apportion the amounts directed to be raised at the annual meetings and afterwards such others as shall be necessary to and upon the undersigned log owners according to above provisions and upon the basis of the statements of logs at such meetings so far as the same shall be given and as to those persons who rendered no statement at such meetings, the committees are respectively empowered to fix and state the number and starting places of the logs for which each delinquent shall pay, and assess apportion to such delinquent the same as though they had rendered the statements fixed upon by such committees, except that all assessments made after the first day of May in each year shall be according to the sworn statements of logs (except when ascertained by the committees respectively to be incorrect), and such as the respective committees fix in case of delinquents; and the whole assessments for the year shall be equalized accordingly. That is if any one has been charged, assessed and paid more than his proportion on prior assessments of the year, the excess over his proportion shall be credited to him on the next assessment, and if any one shall not have been assessed and paid enough to make his proportion then such deficiency shall be added to the next assessment against him and be collected.

Committee
to make
assess-
ments,
and fix the
No. of
logs.

TENTH.—Each and every of the undersigned hereby agree and promise to pay to said committees respectively each and every assessment and sum of money so assessed, charged and apportioned to, upon or against him within five days after notice of any assessment and demand of payment thereof, and such notice and demand may be made by leaving a written or printed notice and demand with any suitable or proper person at the place of residence of the person so assessed, and directed to him or by serving the same personally, and in case of default of payment thereof within five days thereafter, the logs of such person so in default may be left behind and not driven, at the option and choice of the committees in charge of the drives respectively, or such logs may be driven notwithstanding such default, and if driven then the other parties hereto not so delinquent and the committees respectively shall have a lien and incumbrance upon all logs so belonging to or put in by such delinquent for the amount of all unpaid assessments and the costs and expenses of collecting the same, and shall also have a

Assess-
ments to
be paid on
notice.

Lien on
logs in
default.

right of action against each and every of such delinquents jointly and severally to recover the amount of assessments not paid with interest.

Owners
may drive
their own
logs in
certain
cases.

ELEVENTH.—Nothing herein contained shall be construed to prevent any of the undersigned from driving their own logs in any year after a drive has passed and overtaking such drive with their own logs if they can, and in case he overtakes such drive he shall be charged for all logs thus driven and pay for driving the same that year as well as on such part as by the foregoing provisions would not be deemed to be driven that year as that part which would be deemed driven; but as to that part which would not have been deemed driven had the owner not overtaken the common drive he shall be charged and pay for only from the place or point where he overtakes such common drive, and if he does not overtake such common drive he shall be charged and pay from the point where he ceases to drive only, but shall not be bound to pay therefor any sooner than if he had not driven his logs himself. But to entitle any one to this provision of being allowed to drive his logs himself after a drive has passed and save paying and being assessed for driving that portion thereof not deemed to be driven that year only from such place or point as where he ceases to drive the same, such owner shall drive all his logs clean as far as he drives, and make affidavit of the fact of when and what he drove, and how far and whether he drove the river clean of all such logs in such form and in all respects as shall be required by said committees. Each and all the undersigned shall in all cases pay on that portion of his logs deemed to come out and be driven the first year whether he drives them himself or not and whether they reach and are included in the common drives or not.

Owners of
logs lose
possession
of them if
they
neglect
to pay.

TWELFTH.—And it is further agreed that each and every person a party hereto shall and will be severally liable as follows: on default of paying any assessment or any part thereof within five days after notice and demand thereof, to wit: he shall have no right of possession or right to recover possession of his logs or any of them, till all assessments and interests are paid in full, but such logs may be detained and kept in possession at the Big Boom or elsewhere by the respective committees at their election, in default of such payment; he shall also be severally and jointly liable (with other delinquents) to an action at the suit of such committees as

made the assessments or assessment not paid; in case such committee after such default elect to drive his logs and notify him of such election (as herein provided for giving notices) before suit brought, as trustees of an express trust, and also in their own names and behalf, both to enforce the liens of such logs by sale or otherwise and also to an action personally for damages; and in such action the amount of assessments unpaid with interest and a reasonable counsel fee shall be the rule of damages and determine the amount of recovery; but in case of such election to drive the logs by the committee the same shall be obligatory and the logs driven. Also on any default to pay any assessment, any other party hereto may pay the same and have and hold the lien on the logs as security therefor, and also have a right of action against the delinquent for the amount of money so paid to his use, with interest and a reasonable counsel fee on collection; and each and every party hereto in case of any default on his own part hereby revocably requests any other party hereto to so advance and pay his assessments (in default) for him and also make the like irrevocable request of such committee to drive their logs and hereby promise to pay all moneys so advanced and paid with interest and in case of action a reasonable counsel fee. In any such action by such committee or any one else, it shall not be necessary to aver or prove the performance or readiness and ability to perform any condition precedent or concurrent except the making of the assessment and notice and demand thereof and election to drive (when the logs shall not have been driven) and notice thereof and in case such committee shall not be plaintiff, then that plaintiff has paid defendant's assessments or some part thereof after defendant's default therein, and for the purpose of all such actions the covenants herein shall be construed to be independent except that no recovery shall be had of any assessment when defendant shows the same was made or is attempted to be collected in violation of the written directions of the parties hereto (as herein provided by a two-thirds vote) before the money was expended by the committee for which such assessment was made.

Proof of
assessment
and notice
only
necessary.

THIRTEENTH.—Any person owning or who shall hereafter own logs to be driven by said drive or either of them on any of said waters, may become entitled to the privileges herein provided and become a party hereto and shall be

bound by all the provisions hereof, by signing and sealing these presents.

FOURTEENTH.—This agreement shall continue and be in force for five years from date hereof and no longer.

FIFTEENTH.—Wherever logs are mentioned in this instrument, "market logs" or logs by measure and not by count are intended and understood.

Warrens-
burgh
logs.

SIXTEENTH.—It is further agreed that all logs to be manufactured at Warrensburgh and above shall be driven in Schroon River Drive down to the respective mills on Schroon River where the same are to be manufactured, for the price and sum of one-half a cent for each and every market log, which the owner shall and will pay.

SEVENTEENTH.—The expense of the draft of this instrument and counsel fee in relation thereto shall be paid to Stephen Brown, and the amount thereof included in the assessment as an incidental expense of the said river drives.

Old logs.

EIGHTEENTH.—All old logs in the rivers and not heretofore driven to Little Bay are to be driven and assessed and paid for by the owners thereof according to the provisions of this instrument the same as though this instrument had been heretofore in existence, and all such logs put in and driven as far as they now (if driven a part of the way on the route of said drives) are and the accounts settled up for driving to where they now are.

Owners to
furnish a
statement
of logs
put in.

Each owner of such logs shall furnish to the Clerk a statement of all his logs put in within the last three years (and which are not all driven down to Little Bay) and which were put in prior to the last winter and showing where they were started from, how many were put in each year, the mark thereon and where or to what point those now in the rivers have been driven to, duly verified by affidavits as to the correctness thereof on or before the first day of May, 1862, and in case of default of furnishing such statement the respective committees shall fix the same for the delinquents the same as in other cases provided.

NINETEENTH.—This instrument and all its provisions shall apply to and bind the heirs, administrators, executors and assigns of the respective parties hereto.

Witness our hands the day and year above
written:

A. SHERMAN,	OROSON RICHARDS,
HIRAM KENYON,	A. ROBERTSON,
S. L. GOODMAN,	HIRAM ROBERTS,
D. G. ROBERTS,	J. C. FINCH,
JAMES MORGAN and	JEROME LAPHAM,
J. W. FINCH,	H. CRANDALL,
WING, TAYLOR & CO.	STEPHEN GRIFFIN, 2d,
By J. B. Green,	WM. COSGROVE,
GEO. RICHARDS and	SAMUEL T. RICHARDS,
CALVIN COOLEY, by	ALBERT N. CHENEY,
A. T. HARRIS,	D. W. SHERMAN,
L. C. P. SEELYE,	VAN DUSEN &
J. P. BALDWIN,	FREEMAN,
JOHN F. HOWE,	TEFFT & RUSSELL,
WM. REMINGTON,	JOHN C. MONTY,
JONES ORDAWAY,	S. H. KENYON
W. PHELPS and	J. W. SCHENCK,
SCHENCK & WOODRUFF,	
WOODWARD, EMERSON & CO.	

The *Adirondack Bibliography*, published in 1958 by the Adirondack Mountain Club, provides an excellent guide to publications on the region, some of which have been used as sources for this book. A ten year *Supplement*, prepared by the Bibliography Committee of the Adirondack Mountain Club, was published by the Adirondack Museum in 1973.

DA
10/9/89

Seven volumes of revised extracts from *Township 34* by Harold K. Hochschild have been published by the Adirondack Museum as follows:

Doctor Durant and His Iron Horse, 15 pp., 10 illustrations, 3 maps. \$2.00.

Adirondack Railroads, Real and Phantom, 20 pp., 9 illustrations, 10 maps. \$2.25.

An Adirondack Resort in the Nineteenth Century, Blue Mountain Lake 1870-1900, Stagecoaches and Luxury Hotels, 98 pp., 106 illustrations, 3 maps. \$4.50.

Life and Leisure in the Adirondack Backwoods, 121 pp., 127 illustrations, 6 maps. \$4.75.

Lumberjacks and Rivermen in the Central Adirondacks, 1850-1950, 88 pp., 83 illustrations, 4 maps. \$4.00.

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